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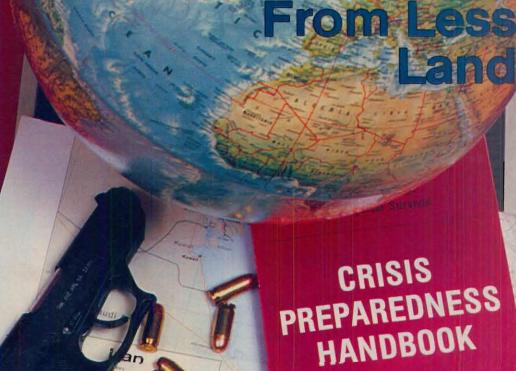
See Gun Giveaway No. 6 Details On Page 39

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JUNE 1984

VOLUME 6, NUMBER 6

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COVER:

What are the chances of keeping America free? The globe, the gun, and the survival text tell the story. See Page 14. And up for grabs in Giveaway No. 6 are two RWS airquns. See Page 39. (Photos by Dave Epperson)

To The Point

Homes isolated from a hostile

Be Prepared

Use mechanical advantage when you can.

HK P9S

The plastic powershooter is superb.

Survival 7

Live Free recommends a national CB net.

World Survival Index

How far has the U.S. traveled toward destruction?

Survival Self-Test

Where are the gaps in your survival knowledge?

Depression

How to get the jump on a vicious circle.

Radio Security

Keep your mouth shut, and listen!



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30 '03 A3

Check out this tough old vet for survival

Survival Cells Shelf-life is

this product's best trick

Kershaw Cutlery

Survival, working and camp blades of custom quality.

Intercepter 1010

So good, it'll bring tears to your eyes.

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Stabilization adds up to accuracy.

Giveaway No. 6

Airguns a pair, and a hunter's handbook.

Caching Hide your gear, but know your territory.

No. 77/22 Ruger's new one

combines quality, simplicity.

Intensive Gardening Part I: An over-

view of how to make food.

Gas Masks These protect against military gases



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Acid Rain If the world doesn't survive, vou won't

Survival Center Here's a self-

sufficiency supermarket.

The Medical Kit Roll your own

to suit your specific needs.

Survival Stuff

Gun safes that look like grandfather clocks.

Survival Workshops

Stone-age skills and self-reliance classes.

Book Review

Explosives, dirty tricks, and survival.

Survival Cycle

Transporter/tractor, the Rokon can patrol or plow.

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Who has what for whom, and where to get it.

Mail Call Readers gripe

and pay compli-ments to SG.



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TO THE POINT

Homes, all peopled by families isolated from a hostile world...

P MOUNTAINSIDE switchbacks they go, nose-to-tail like so many circus elephants, moving just as slowly. "Good Sam" emblems on their massive fiberglass buttocks identify those inside as patently nice folks. Look at the TV antennas folded flat on their roofs, ready for instant deployment on arrival, no matter where these barges come to roost.

I have nothing against motorhomes, per se, except that they are "homes," primary dwellings. Apartment habitues, suburbanites, flatland farmers, machinists, aerospace workers, a cut across America, can be found any weekend, all summer, motoring in their 4- or 8-wheeled homes.

"What's wrong with that?" you ask.

Nothing, I reply, except . .

Homes, primary shelters, have all the good things of American Life: food, tapedecks, magazine subscriptions, walls, windows, kitchens, hot showers, king-sized beds, family rooms, closets, laundries, dinettes, dens, workrooms, playrooms, all peopled by families isolated from a mainly hostile environment. Nice.

Now accept the premise that one can bolt a primary dwelling with all the amenities to a 1- or $2^{1/2}$ -ton truck chassis and you have a motorized *home*, a motorhome. Very nice.

It follows that primary dwellings on wheels, peopled by those same families, move *en masse* to "camp out" while enjoying the woods, the mountains, the desert, the seashore, still sheltered from hostile real-world reality.

Here are a couple of episodes from personal experience:

My family and I are camping backpack style. We've hiked and fished and done some stargazing. ("Which one is the North Star, Dad?") I've done some instructing of kids. But now it's evening. We've finished a supper cooked on a Forest Service camp stove. I'm picking the banjo and we're all singing—howling at the moon, more like—but enjoying a fire, hot coffee and nosey raccoons. A motorhome pulls into the campground, and laboriously maneuvers into a parking space. The driver, a dark figure, jumps out, goes to the rear of the vehicle and starts an electrical generator: R-R-Rrrrrrrrrrrr...!

It drowns out our singing. The motorhomer climbs back into his aluminum and foam-insulated home. Seconds later, the bluewhite glaze of an illuminated television screen suffuses the space inside and outside the motorhome, dimming the stars.

Another time, when I was younger, a good deal tougher, and certainly more foolish, I was bikepacking solo—that is, motorcycle touring with only light equipment for cooking and sleeping. On this particular day, as the sun went down, I was 15 miles shy of the campground in which I had planned to stay. It was December, very cold, so cold that icicle spears penetrated my multiple layers of leathers and longjohns, into my very bones. At the camp, my duck down sleeping bag was simply inadequate. My water bottle froze solid, I shivered so that I couldn't sleep, yet I'll never forget that night with the Milky Way so clear and close I could almost touch it as it arced across the sky. And a string of clouds, blown off the 10,000-footers nearby, flew in a majestic convoy off to Mexico. Toward morning, the earth, the trees and I were dusted with a light covering of snowflakes that reflected the starlight. The sun rose and the snow melted almost immediately. I could see steamy, warm vapor rising from the shower vent in the motorhome in the next campsite over. As the sun climbed and the chill diminished. I set about making breakfasthot chili. About that time, the lady of the motorhome next door stepped outside. Hugging herself, she ambled over to my minimal camp and said, smiling, friendly, "My, isn't it chilly!"

Neither of the motorhome families in these vignettes had seen the moon, wild creatures, the Milky Way, the clouds or the snow, or had made music with their own voices, or learned the location of the North Star. No, they had brought their homes with them to protect and isolate themselves from the environment. Controlled temperature, TV, refrigerators and kitchen ranges were between these people and the elements, Earth's magic, Earth's mischief. These people might as well have stayed home. They encountered nothing, they gained no experience. They were, well, home, the entire time.

What will these families do when, as a result of disaster, cataclysm or conflict, their primary shelters are destroyed, no longer habitable? The inexperienced, the isolated, those who must be "at home" always, will perish, not knowing how to cope in a world without homes.

Those of us who call ourselves survivalists must, at every opportunity, make every experience a survival learning experience in real-life situations that are not, by any means, home. — Dave Epperson

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BE PREPARED

Whenever possible, use mechanical advantage to help accomplish a task . . .

By Greg Donewar



ABOVE—Even a light block and tackle set can work wonders with a heavy load.

RIGHT—A chain hoist provides mechanical advantage for lifting heavy loads short distances.



UITE OFTEN the most basic and obvious tools go unnoticed. This is the case with a device used to aid in transportation of weight from one point to another. This device is the block-andtackle arrangement. While most people know what it is, few people know how and why it works, or what purpose the block-and-tackle serves.

Most obvious is its use for increased lifting capability to easily raise large loads from low points to high points. The load being lifted could be an engine hoisted a few feet, heavy supplies, or an injured person to be transported along the length of a cliff. Aside from its lifting capabilities, the blockand-tackle also can be used to gain increased pulling power for extracting stuck vehicles, stretching fence or pulling stumps.

A few definitions are in order. A block is one or more pulley wheels enclosed in a frame. A series of blocks is called a tackle. The pulleys, properly called sheaves, are various sizes, depending on the purpose for which they are intended. There are two factors to consider when purchasing or making a tackle. The first is weight capacity, or the greatest weight that the blocks and rope (falls) will hold safely. The second factor is the lifting ratio. This ratio is expressed numerically, and it determines how much weight can be lifted with a specific degree of effort. For example, a 4:1 ratio means that for every 1 pound of effort that is exerted, 4 pounds can be

lifted. If this sounds unlikely, read on. In order to understand how a 100-

pound person could, by his own weight, lift 400 pounds, you must first understand a few simple principles of physics. According to the laws of energy, more work output cannot be obtained than work input. However, if work equals force times distance, lifting capabilities can be increased by considering distance as the variable factor. More simply stated, using a 4:1 ratio tackle, a person can lift four times as much weight as ordinary, but he must pull the rope four times as far as the distance the weight is to be lifted.

The ability to increase lifting capabilities is more accurately described as mechanical advantage. Mechanical advantage allows you to move a great deal of weight with less effort by enabling you to use exerted effort in a cumulative manner.

To further understand how pulleys work, see the accompanying illustration of a single-falls arrangement. By equating a pulley with a lever—this applies only to the pulley moving with the load—you can see how the pulley's diameter increases lifting leverage at the cost of increased distance it is necessary to pull the rope. This single pulley can double lifting ability. In the tackle setup, the pulley or pulleys that move with the load are those that increase lifting leverage. Fixed pulleys serve only to change the direction of the rope and to reduce friction.

The lifting ratio can be determined (Continued on page 64)

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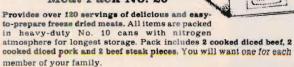
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Staff Evaluation

PHOTOS BY DAVE AND SALLY EPPERSON

ORTY-FIVES, mainly offshoots or ripoffs of the U.S. Government Model 1911, shoot very much alike, flipping their muzzles in the air, recoiling violently,

their hammer spurs biting the hand that feeds them. Unless professionally tuned, tweaked and tricked-out with various aftermarket accessories, the cost of which may pay for the pistol-



T-1 steel torso silhouette shows .45 ACP hardball hit dead-center, evidence of the P9S pistol's point shooting ability.





Bianchi Model 19L high-ride holster is a perfect fit for the P9S, and smooth, rapid draw is possible with practice.

186 rounds fired. (See ".45 Auto," by Jim Thompson, Survival Guide, March, 1984.) semi-auto exist that isn't a 1911 ripoff, is factory accurate, displays negligible muzzle-flip and recoil, and doesn't have a hammer spur to rake the shooter's tender skin?

> "Yeah," he says, "but the P9S is plastic." He sneers "plastic" as though it were a filthy four-letter ca-ca word of Anglo-Saxon derivation.

rounds.

smith's new Rolls Royce, they are, as a

class, inaccurate. Survival Guide's

tests show that run-of-the-mill new .45

ACP semi-auto pistols jam once in

The question is, does the .45 ACP

The answer, of course, is "Yes!" The Heckler & Koch P9S .45 meets those standards, without the attentions of an expensive pistolsmith and his

bag of replacement springs, pins,

barrels, magazines, etc., et al. And the P9S, in rapid-fire, is supremely accurate, right out of the box. The P9S jams, on the average, once in 265

That observation—or accusation is true only in part. The P9S is a happy marriage of plastic and steel. Trigger guard and the grips, contoured for a right-hander's thumb, and over the rear of the frame, are molded of impact-resistant black plastic.

These two plastic parts enclose the lower frame, which is fabricated of complex steel stampings and weldments. The lower frame houses slide release, trigger, buffer (yes, of plastic), trigger and trigger spring, disconnector, pull bar, hammer, hammer spring and strut, ejector, magazine

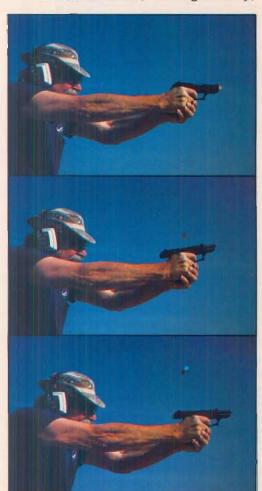


Photo sequence shows P9S at the moment the bullet leaves the barrel, and the processes of extraction and ejection.

SURVIVAL GUIDE/JUNE 1984



Drop the magazine . . .

well and catch, and the various pins, axles, hairpin springs and catches that serve the trigger, hammer, slide stop and magazine mechanisms—all steel.

Three or so parts out of 81 are plastic—and that plastic is used where it counts—for functional, no-hangups contours, and for light weight.

Slide, barrel, recoil spring, bolt head, extractor, bolt head carrier, rollers, firing pin, slide and safety are all machined steel parts. No stampings here. The heavy metal is likewise used where it counts—for strength and durability.

Run-of-the-mill .45s jam once in 186 rounds fired.

The overall effect of plastic-andsteel gunmaking in the P9S is the pistol's general feeling of light weight —an HK ping-pong paddle, as compared with a 1911 Model claw hammer, say. Its very lightness, its ergonomic smoothness, make the P9S seem to become an extension of the shooter's hands, more about which will appear farther along in this article.

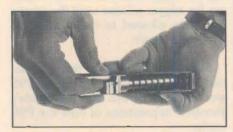
Topping-up P9S magazines is a stiffspring push, not unlike loading boxes for .45 Government Models, and their look-alikes.

The P9S jams, on the average, once in 265 rounds.

Ouch!—Sliding the magazine into and out of the P9S's well differs, however, in that the magazine catch is on the pistol's butt, whereas the 1911's magazine release thumb button is on the grip frame, just to the rear of the



Press release and lift off slide ...



And slide the barrel out for cleaning.

trigger. The P9S European style release, for Americans accustomed to .45s of U.S. persuasion, takes getting used to. In addition, for those with big hands, care must be taken when slapping a magazine home in the P9S that the tip of the shooter's right-hand little finger is clear of the forward flange on the bottom of the magazine. Otherwise, the magazine will slide home completely and latch, while at the same time catching and pinching the ball of that finger between grip frame and magazine flange. Ouch!

Once a magazine is loaded and inserted in the P9S, there are two ways to get things started. One is to have the slide fully rearward, retained in the open position by the cocking lever at the left-hand side of the pistol, then, when the magazine is in and latched, pushing down on the cocking lever (slide stop/release), and allowing the slide to fly forward, chambering a round. The alternative is to pop a magazine into the P9S, then pull the slide rearward, and let it snap forward to chamber a round.

With a round in the chamber, and the firing-pin-block salety in the "Off" position, the double-action P9S is always at the ready. When the safety is "On," the firing pin is cammed forward, where it cannot be stuck by the hammer face; when the safety is "Off," the rear of the firing pin protrudes into the hammer well where it can be rapped by the hammer when the weapon is triggered.

When the hammer is cocked, safety "Off," the hammer will drop with



Slide separates from lower frame . . .

about a 3.2-pound effort on the trigger. When the hammer is down, a pull of the trigger, long and creepy, will fire the P9S. The next shot can be torched-off with that light, effortless fingertip squeeze.

The hammer itself is concealed. When it is rearward in the lower frame section, it cams a firing-pin position indicator rearward so that it becomes visible—and can be felt in the dark—at the rear of the trigger/hammer group, below the receiver.

Squeeze-To walk the P9S through its firing cycle, start with a loaded magazine inserted, a round in the chamber, the hammer cocked, and the safety "Off." Aim. Squeeze the trigger lightly. The trigger sear disengages from the hammer sear, permitting the hammer to fly forward as the compression of the hammer spring is released. The hammer strikes the firing pin at the rear of the receiver's firing pin well. The firing pin, extending through bolt head carrier and bolt head, strikes the cartridge primer. The round detonates. The bullet exits the barrel. Meantime, the cartridge case pushes against the bolt head, forcing it rearward on the bolt head carrier. This drives left- and right-hand rollers into corresponding grooves or sockets in flanges at the rear of the barrel unit. The rollers momentarily delay the rearward travel of the bolt head. Then, as the bolt carrier starts rearward, the rollers recede into the bolt head's sides, allowing the bolt components and slide to continue rearward as a

The spent cartridge's rim, under the large, incisor-like extractor in the bolt head face, travels rearward with the bolt and slide components until the horizontal ejector bar in the lower frame assembly strikes the case, and expels it upward and to the right. This rearward motion once again cocks the hammer sear against the trigger.



HECKLER & KOCH P9S

Now the bolt carrier and bolt head, together with the slide, start their forward travel under release of the recoil spring's compression. A machined foot, or spur, on the lower edge of the bolt head engages the rear of a cartridge case, and forces the succeeding cartridge out of the magazine, up the ramp, and into the chamber. The disconnector stops the P9S from going full-auto by preventing the trigger pull bar from re-engaging for trigger release until the trigger has been allowed to travel fully forward once again.

Superb—Those are the components and actions that make the P9S work. Now here are *Survival Guide's* shooters' impressions of how the P9S works:

This article could end right here with the word, "Superb!" But that doesn't explain things.

First, the P9S has a polygonal bore, instead of conventional land-and-groove rifling. This bore design seems to keep burning powder gases sealed more tightly behind the bullet than do lands and grooves, and appears to impart rotation as well or better than rifling. The P9S delivers uncommon accuracy, probably for reasons of bullet rotational stability that results from the polygonal bore. The P9S just doesn't fling keyholers.

The pistol, as stated previously, is

light, but it is also well balanced, and it fits the hand in such a way that its sights come to point of aim very quickly, naturally, seemingly of their own volition. The P9S is a natural shooter.

Drawing from a Bianchi Model 19L high-ride holster made expressly for the P9S, the pistol seemed to flow rapidly in a smooth arc from leather to sight picture to target engagement without a struggle, naturally.

The white front post sight appeared to align itself automatically with the two red rectangles that outline the sides of the rear notch, naturally.

Between the shooter's hand and the bore axis of the P9S, the vertical distance is a matter of an inch or less. In point shooting, not using sights, SG people scored almost as well against half-scale metallic upper-body silhouettes as they did in timed fire, sighting the target every time.

Using those combat sights, though, and experimenting with the turret and Weaver stances, SG shooters invariably smacked the metal dead center, as shown in the accompanying photo, no matter what sighting or hold technique was used. It seemed simply a matter of pointing the index finger, and the 230-grain .45 slugs traveled to direct center hits.

The roller-delayed recoil system of the P9S did what HK advertises: rear-

(Continued on page 67)

HECKLER & KOCH MODEL P9S: TECH SPECS

Caliber	.45 ACP
Action	semi-automatic
Operation	roller-delayed blowback
Capacity, rounds	8 (1 in chamber)
Feed	magazine
Lengths:	
Barrel, inches	4.0
Overall, inches	7.6
Height, inches	5.4
Width, at grips, inches	1.3
	1.0
Sights:	tette dest
Front	white post
Rear	red-outlined notch
Signt radius, inches	5.8
Weights:	
	1.7
Empty, pounds	
Magazine, 7 rounds, pounds	0.5
Total, pounds	2.2
Muzzle velocity, nominal, fps	840
Muzzle energy, nominal, ft-lb	370
Prices:	
Standard, suggested retail	\$550
	1505 A 151
Target, suggested retail	\$630

TOTAL

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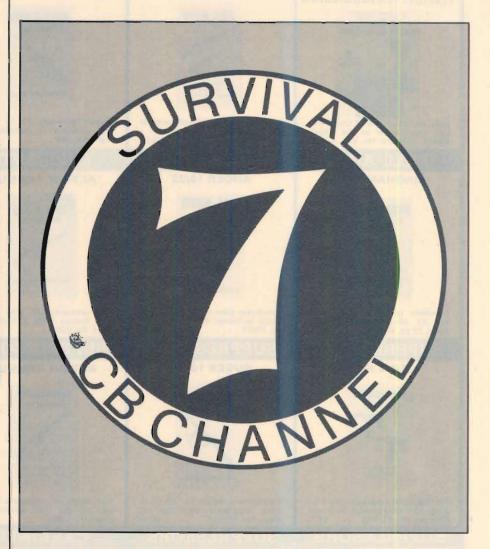
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Citizens Band:



Live Free proposes national communications network . . .

SE OF CB Channel 7 for survival communications is advocated by Live Free, Inc., an international survivalist organization.

Live Free believes that use of Citizens Band Channel 7 would:

- Encourage CB communications between individual survivalists and groups:
- Facilitate dissemination of vital survival information to survivalists. their friends and neighbors;
- · Provide a specific channel on which survivalists could attempt to establish initial communications with other survivalists in an area without compromise of a base location;
 - Serve as a monitor channel for

initial survival alert communications;

- Be used as a "normal operations" channel for training activities; and,
- · Would promote network formation and unity among survivalists.

Live Free offers "Survival Channel 7" bumper stickers, and has directed all of its members to start rectular use and monitoring of Channel 7 for survival-related communication.

Additional information about Survival 7 and a proposed survival "Ham" operator's network may be obtained by writing to S-Net, Live Free, Box 1743, Harvey, 11 60426.

Live Free is a mon-profit, educational, communications and service organization for the survivalist movement.

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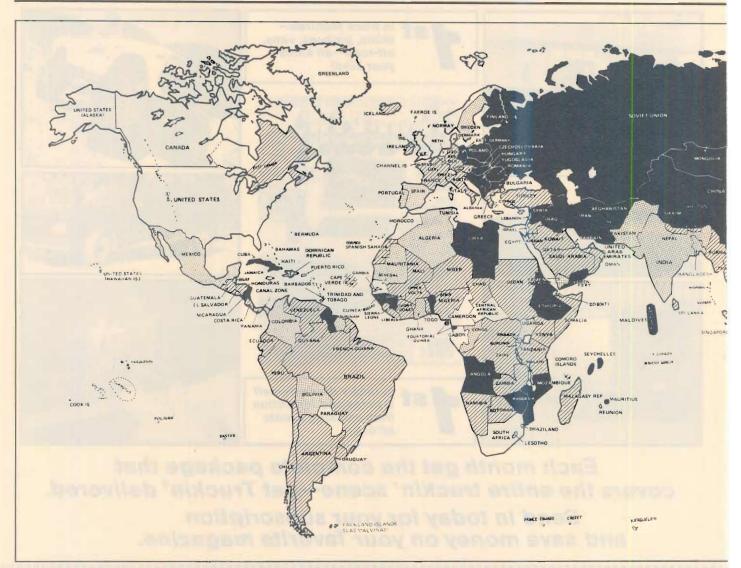
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Global Guide:

THE WORLD SI

For readers who're concerned about how far the U.S



BLACK indicates countries under control of governments that are 100 percent against United States' interests.

DOT shading indicates countries that are not 100 percent under communist control. Typically, these countries' leaders are referred to as "Socialist" or "Marxist." Their cabinets may not be made up entirely of communists. In all probability, these nations will be absorbed eventually by Communist or Islamic nations.

LINE shading indicates nations that may be friendly or unfriendly to the United States. In either case, they are unstable.

By Hal Gordon @Copyright 1984

S THIS ARTICLE was being prepared, Americans were jarred rudely from their normally somnambulant mood by a number of rapid-fire, crisis-provoking events: downing of Korean Airlines Flight 007, terrorist bombings in Lebanon, U.S. invasion of Grenada,

and pull-out of the U.S. Marines from Beirut, to cite a few.

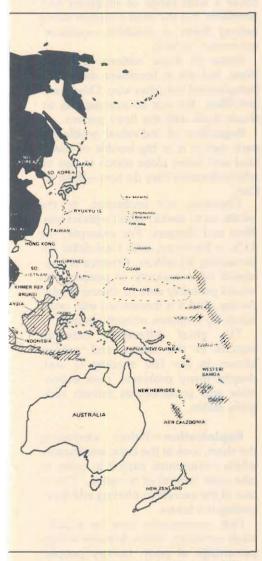
With screening of The Day After by ABC, the population of the U.S. suddenly exhibited signs of panic as a result of the very dangers for which survivalists have prepared over many years.

For Survival Guide readers who're concerned about how far the U.S. has traveled down the road toward destruction, the first "World Survival Index" is introduced here. The Index is a graphic illustration of the status of America's "survival quotient."

This Index can help you in two

IRVIVAL INDEX

has traveled down the road toward destruction . . .



WHITE indicates so-called free nations. They may face more problems than black, clot or line shaded nations, but differ by enjoying stable governments with free elections.

ways: (1) It will allow you to apply daily news reports to the proper place on the Index Table in order to plot changes and measure the communist advance, both on a world scale, and within the United States as well. And (2), the Index will help you to make your own survival preparations, and to

draw up survival plans immediately.

You may wonder how a map and chart of the world will affect you on a personal level, in your own environment. Here're a few examples which may help to guide you:

You may look at the map first and receive a certain degree of inspiration from the urgency of the overall situation. This should provide some motivation to start preparations now, not at some foggy future time.

If you're getting along in years—over 30, say—you may have acquired some stocks, savings, or other investments. You should be interested in where your money is being invested. Examine corporate annual reports. Dig on your own. Discover how much of your money is being invested in foreign countries.

If you read any survival-related publications, you'll notice the frequency of such subjects as buying a retreat location in a foreign country, investing in tax shelters abroad, stashing your money in secret accounts, and establishing new identities. You shouldn't think about such moves before you consult the Index chart or conduct your own research. As you read on, you'll discover that many nations now show signs of not being able to survive the next year or two.

Perhaps the most important use you can make of the Index map is to aid in your timing or in making your own forecasts which should prevent you from investing your hard-earned dollars in the wrong thing—or in the right thing at the wrong time. The average survivalist can estimate dangers that will come down this year or next, and can establish a priority for spending money. So, before you place too many eggs in one of those baskets, take another look at the Index.

The Media—It has been fairly well established that a large segment of the news media does not report on what the enemy is doing. For that reason you may ask, "How will I know or recognize the significance of what I see

and hear?" Read on:

Just as bacteria multiply in their ideal environment, so communism has its ideal environment in which it spreads most easily and quickly. These conditions are discussed in the explanation of the Index chart ratings. As you study how the communists think and what their own announced goals are, it will be relatively simple to provide your own forecasts by assessing reports of events as they appear in daily newspapers or on TV newscasts.

Some newcomers to the survival publications field will be shocked when they put two and two together and discover that all those factors contributing to the fall of foreign nations are equally as applicable to the U.S. For example, those Americans who support the communist rebels in El Salvador are the same people who attack the United States judicial system as being too harsh on criminals.

While many unselfish mercenaries work and fight with patriots of foreign nations to stave-off communist revolutionaries, it would be well for the U.S. if there were more civilian soldiers right here at home, fighting the same enemy at their level, on America's own turf.

Many of the complexities that contribute to America's demise as a free nation are orchestrated skillfully by the communists. The enemy is attacking on so many fronts that average citizens and Congressional representatives are at a loss to keep up with events, or to even believe what is occurring. Thousands of seemingly insignificant, often invisible victories scored by the communists add up to a crushing weight that is slowly squeezing out America's life's breath.

Consider the Index ratings for the United States very seriously. This is the nation in which most readers plan to survive!

The Basics—Some basic thoughts will help to keep this complex picture in perspective as you read. The World Survival Index reflects international

conflicts which might be divided into four categories: (1) East-West struggle of communism against free nations: (2) Eastern religions against the Judeo-Christian religions; (3) North vs. the South, which divides the industrialized nations from the so-called Third World nations; and (4) nationalistic and historical border disputes which are common in the Mideast.

The current most important strategy in the East-West struggle is that of the communists to convince Americans that they are in mortal, daily jeopardy from being on the wrong end of a nuclear war. This is the only way communists can hold off the free nations while invading weaker targets. Note that they are winning by conventional warfare, revolution and subversion. Anti-nuke protestors apparently believe that conventional murder is

Survivalists, too, become caught in this trap. While localized strategic nuclear warheads could be used, along with small devices set off by fanatical terrorists, neither major power clesires a full-scale nuclear war. This means that a disproportionate amount of time, money and energy is often spent by survivalists on just that one danger-which could leave their flanks and rear vulnerable.

Hate—Other communist strategies include the use of power, hate and energies of those involved in the second, third and fourth categories against the U.S. This means that millions of those people who come to the U.S. through normal immigration channels—and otherwise—are free to do or say almost anything against the U.S. With guidance from communist leaders, their influence upon the average, unsuspecting American is tremendous.

The Index is made up of only a few arbitrary measuring devices in order to show you the "World-at-a-Glance." If you take any country at random, you will discover enough behind-thescenes intrigue and manipulation to provide material for a new James Bond film. Multiply this times 180 countries of the world and you gain an idea of what is represented by this condensation.

For those survivalists who have limited time or resources to study such matters, and for those who are just plain bored by politics and geography, here's a parable from everyday life:

While dozing on the warm sand of a California beach, a young man is suddenly shocked and surprised by a wave of cold water rushing over his body. This is the result of his ignoring the unexciting facts behind the movement of ocean tides. The young man doesn't know much more about tides now, but you can count on him positively to keep one eye peeled on the tidal movement before he spreads his towel on the beach.

The meaning of this fable should be perfectly clear to the survivalist who is planning his retreat or financial future without first checking on the Red tide and perhaps a few dangerous crosscurrents as well. The accompanying map and chart can be your tide tables.

The Map—Now turn to the map on which are depicted only four classes of measurement for the condition of the world's nations. Of course, individual nations cannot be placed accurately in only one of four pigeonholes. There are many shadings involved. Conditions change constantly. However, the map will provide a base from which to make your own observations, starting today, and into the future.

The nations in black are easiest to index because their power over the people is virtually absolute, and their policies toward the U.S. are clear and uncontested. Not all of these are communist. Some have left-wing, anti-American dictators who, in some cases, don't mind being controlled directly by the communists. Included here are radical religious nations such as Iran. These countries may or may not maintain a diplomatic relationship with the U.S. It matters little.

The countries indicated by the stippled dot pattern are not completely controlled by the communists or are not under the rule of similar dictatorships. These countries may have a dissenting minority party, or a few mayerick cabinet members who are free to speak out to some degree.

These countries are usually built on a socialistic form of economy and government, which means they are probably bankrupt, and dependent upon foreign aid or military supplies from an enemy nation. It should come as no surprise that the U.S. probably is giving the same country some of your tax dollars, too.

may use these countries as bases, or staging areas, for attacks on U.S.friendly countries. Despite their problems, many nations in this classification still have an opportunity for independence, especially with some help from the U.S.

The line-shaded pattern nations cover a wide range of situations and problems, but the most common factor among them is instability-political, economic, or both.

Some of these nations are pro-West, but are in imminent danger of being turned the other way. Others are anti-West, but not so intensely as to shade them with the lined pattern.

Regardless of individual problems. each nation is in big trouble of some kind and bears close watch to see in which direction they do turn—West or

Countries left unshaded, in the white, so to speak, aren't without conflicts and dangers. For example, the U.S. is bankrupt, with total debts approaching \$1 trillion. America is populated by a majority of people who would probably vote to disarm or surrender, and it is threatened with revolution by umpteen minority groups.

The chief difference between nations in the white, and nations shown in the line shading is that, despite many problems, their economies and governments remain relatively stable.

Exploitation—Before examining the chart, look at the basic weaknesses which communists exploit in order to take over control of a nation. This is one of the secrets to plotting and forecasting the future.

First, communists look for a poor, weak economy which features a high percentage of poor, hungry people. The locals will talk of "taking things into our own hands." The communists say, "We'll help you poor people shape your own destiny. Just take our guns and money, and follow our directions. You'll drive out your oppressors." Naturally, the communists supply key leaders who, after victory is achieved, become heads of the new government.

Next, the communists might look for a country run by a hard-line dictator who is known to murder his opponents, and to rule by terror, it isn't difficult to convince most of the Communistic or Islamic terrorists people to take up arms—supplied by

	NATION-BY-NATION: THE WORLD SURVIVAL INDEX																						
b = black d = dot l = line w = white	MAP	SHADING	CONTROL	RELIGIOUS,	ECONOMY	LOCATION	ОТНЕВ	TOTAL		MAP	GOVERNMENT	RELIGIOUS,	ECONOMY	LOCATION	OTHER	TOTAL		MAP	GOVERNMENT	RELIGIOUS,	ECONOMY	LOCATION	OTHER TOTAL POINTS
REGION/ NATION		a	b	c	d	е	f	9	REGION/ NATION	a	b	c	d	е	1	g	REGION/ NATION	a	b	c	d	e	f g
NORTH AMER	ICA								Hungary	b	9		7	10	9	35	South Africa	w	3	8	2	9	4 26
Canada Mexico		w	4 7	3	8	5	8 9	28	Latvia Lithuania	b	10		7 7	10	10	37	Sudan Swaziland	1	4 2	9	10 5	9	3 35 9 27
U.S.A.		w	4		7	-	8	19	Poland	b	9		7	10	9	35	Tanzania	i	5	1	10	8	7 31
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Bolivia		d	8		8	2	3	21	Iraq	b	6	10	8	10	8	42	Zambia	d	9	3	8	7	7 34
Brazil Chile		-	2 2	2	9	5	8 9	24 26	Jordan	W	3 5	10	4	10	6 9	33	Zimbabwe INDIAN OCEAN	Ь	9	8	7	5	9 38
Colombia		d	8		7	3 2	8 9	26	Kuwait	1	5	9	2	10	6	32	Comoro Islands	1	5	8	4	9	7 33
Ecuador Guyana		b	9		9	8	9	25 33	Lebanon Libya	b	10	10	4 7	10	10	36	Madagascar Maldives	b	6	3	5	8 9	6 28 8 33
Paraguay Peru		W	3		3	1 2	4 8	11 22	Morocco Oman	w	2	4	6	9	3 7	24	Mauritius	b	9	4	6	10	10 39
Surinam		b	9		7	2	9	27	P.L.O.	b	10	10	10	10	10	26 50	Seychelles Sri Lanka	b	9	2	6	9	9 33 6 24
Uruguay Venezuela		1	5		9	2 7	8	24	Qatar Saudi Arabia	1	2 2	8	2 2	9	9	30	OCEANIA/PACIF	IC					
CARIBBEAN			My.						Syria	b	9	10	8	9	10	46	ISLANDS Caroline	W	1		3	7	5 16
Antigua/Barbue Bahamas	da	W	3 4		3	5	6	17	Tunisia Turkey	1	8 5	8 2	7 7	10	5	38	Fiji Kiribati	1	3	5	2	8	6 24
Barbados		w	3		1	6	3	13	United Arab		100			-			(Gilberts)	1	1		3	6	5 15
Cuba Dominica		b	10 2	4	8 2	9	10	12	Emirates Yemen-P.D.R.	b	10	10	6 9	10	10	30 48	Marianas (For- merly Guam)	w	1		3	8	5 17
Dominican		-	0		10	-	•	00	Yemen-Arab								Marshalls	ï	4	2	3	6	7 22
Republic Grenada		d	9 2		10 7	5 7	9	33	Republic AFRICA	d	8	.9	8	10	8	43	Nauru Papua New	1	2			8	7 17
Haiti Jamaica		1	3 4		10 2	7 7	9 8	29	Angola	b	9	2	7 8	5	10	33	Guinea	w	2	4	7	7	7 27
St. Kitts-Nevis		w	3		3	7	7	20	Benin Bophuthatswana	b	9		8	7	10	34	Solomon Tonga	W	2 5		2 2	9	7 20 8 24
St. Lucia St. Vincent-		W	2		2	5	3	12	(South Africa) Botswana	W	4 5	4 3	2 7	6 7	8 2	24	Tuvalu (Ellice)	W	2		3	8	5 18
Grenadines		w	2		4	5	3	14	Burundi	w	2	1	10	7	5	25	Vanuatu (New Hebrides)	w	3	1	2	7	6 19
Trinidad-Tobag	10	W	2		3	9	8	22	Cameroon Cape Verde	W	2 2		3	8 5	3	16	Western Samoa FAR EAST	W	2		2	9	7 20
Andorra		w	1		1	9	6	17	Central African							10	China						
Austria Belgium		W	3		2	9	7	21	Republic Chad (North)	b	2 7	7	9	3	4 2	13	(P.R.C.) China-Taiwan	b				-	Base 50
Cyprus		1	3		3	10	10	26	Chad (South)	w	1	S Marie	10	1	5	17	(R.O.C.)	w	1			10	8 19
Denmark Finland		w b	3		7 3	7	9	26 31	Ciskei (South Africa)	w	4	3	2	7	5	21	Japan North Korea	w b	10	4	5	9	6 28
France Germany (Wes	41	1	5		6 5	5 8	8 7	24	Congo	d	8	3	6	6	2	25	South Korea Mongolia	W	2	•	2	10	7 21
Greece Greece	1)	+	4		4	8	9	25	Equatorial Guinea	w	5	1	10	7	2	25	Philippines	b	10	3	3 5	10	10 36 9 32
Greenland Iceland		W	2		5	7 9	6 8	20	Ethiopia Gabon	b	10	2	10	10	10	42 17	Tibet SOUTHEAST AS	b	10	2	10	10	10 42
Ireland		1	4	8	7	6	9	34	Gambia	W	3	1	5	10	10	29	Brunei	1	6	10	1	4	5 26
Italy Liechtenstein		w	6		2	5	7	20	Ghana Guinea	d	5 9	1	8	6	8	28	Cambodia Indonesia	b	9	9	6	9	10 36 9 34
Luxembourg		w	1		2	5	5	13	Guinea-Bissau	b	9	1	9	6	5	30	Laos	b	9	7	6	10	9 41
Malta Monaco		d	8		6	10	8 5	32 10	Ivory Coast Kenya		5 7	1	3 4	5	6 7	20 28	Malaysia Singapore	W	3	9	6	10	6 32 8 27
Netherlands		w	3		2	6	6	17	Lesotho	-	4	5	3	7	7	26	Thailand	1	2	1	8	10	2 23
Norway Portugal		w d	9		5 7	10	3	22 33	Liberia Malawi	l W	7 2		8	5 4	6 2	26	Vietnam SOUTH ASIA	b	10		7	10	10 37
San Marino Spain		d	9		1 7	8	9	27 28	Mauritania	d	8 7	10	7	5	3	33	Bangladesh Bhutan	d	9	9	10	7	9 44
Sweden		d	6		9	10	7	32	Mozambique Namibia	b	5	5 2	9	6	7 9	34	Burma		3	6	5 4	10	1 1,9
Switzenland U.K. (Birhain)		w	1.		4	3	6	14	Niger Nigeria	- 1	5		9	5	7	26	India Nepali	d	8 5	8	9	6	7 38
U.S.S. RASATE		NA	TION	NS					Rwanda	i	7		10	ó	7	30	Pa kirstan	d	7	10	8	10	7 32 8 43
Albania Bulgaria		b	10		7	10	10	37	San Tiome- Principe	F-	10		0	7	0	35	DOWN UNIDER Avustralia	***	4		2	0	2 00
C zechoskvakia	a	b	9		7	10	9	35	Seriegal	b	10		9	7	9	24	New Zealand	W	6		3	63	8 23 5 20
Estonia Germany (East	67	b	10		7 7	10	10	37 37	Sierra Leone Somalia	- [6 5	9	10	7 9	9 7	32 40	New Caledonia (France)	- 1	4	2	1	77	7 21
				319	H- I				Johnana	A NE	3	3	10	3		40	(1.0.100)			-	100	4	6 21

guess who?—and follow the communist leaders to deliverance.

If the communists have a country in sight which is running with relative smoothness, then they must look for a charismatic leader with a following, perhaps a cult figure or a tribal leader. With the promise of power, this leader will attempt to stir up hatred between whatever factions are present in that country. From this turmoil springs a guerrilla army. Those who don't join the "new wave" are eliminated, or excluded from the chosen who are fed, clothed and housed.

In the U.S., the communists' job is a little more tough. They recruit leaders from various minorities, and must convince them that they are downtrodden, and should overthrow the government of the U.S. in order to help their people. Communists also are busy on the other end of the spectrum. Here, they must convince the wealthy that the capitalistic system, which has made them wealthy, is bad for the country.

The Chart—With these things in mind, the Chart was divided into seven columns. The first column shows the map shading designation for each country. The following six columns are assigned a numerical rating under the headings: (b) Government Control, (c) Religious and Tribal Influence, (d) Economic Condition, (e) Location Factor, (f) Other, and (g) Points Rating Total.

The ratings are expressed in numbers from 1 to 10, the 10 being the worst-case situation. Think of the ratings as the percentages of control the communists have achieved within a particular nation. The 1 is 10 or less than average. A 9 or 10 means that things are about as bad as they can get —90 or 100 percent enemy control. Or in the case of religion, economy and location columns, the rating refers to the threat that exists now.

Not included in these considerations is the potential for counter-revolution against enemy regimes. For example, considerable unrest and anti-communist pressure exists in Poland. Regardless, Russia maintains enough control that Poland is rated a 10 across the board. This factor will be important in the future, if we expect to win eventually.

The Columns-Here're brief

explanations of each column so you can better understand the ratings. More importantly, you will understand the significance of your newspaper headlines, and relate them to the survival of the United States—the common retreat for all Americans.

(a) Though map shading is oversimplified, the shadings provide a pattern in context with regional dangers and conditions. By studying the remaining columns, you will be able to actually make your own forecasts and estimate the time factor. Also, the socalled Domino Theory, where applicable, may be applied on the map.

(b) The second column measures the degree of enemy control through that nation's governmental or political structure. A high numerical rating means an increasingly greater threat because that enemy can direct more

How will I recognize the significance of what I see and hear?

destruction or influence against the United States through the resources of that country: military power, revolutionary infiltration by its people, political or economic influences on the U.S. or its allies, transportation blockages. and restrictions of strategic materials. Unfriendly governments will probably assume one of four different forms: (1) Communist, as set out in the Manifesto, and generally familiar to survivalists; the important thing to keep in mind is the ultimate communist goal of controlling the world. This is the basis of all communist actions. (2) Dictatorship that springs from a military coup is most often anti-communist. One reason is that when the communists infiltrate a government to the top levels, they will control the army which is the true power in small nations or Third World countries. To keep their military positions and freedoms, the army brass will see what's coming and will act before it's too late with a swiftmoving coup or takeover of the civilian government. Afterward, the mili-

tary dictatorship will be slow in restoring free elections until it is sure there is no significant communist support. Sometimes the army does not relinquish control and fails to return to free elections. This is an irritant that starts serious opposition which communists exploit. If that military government comes to the U.S. for aid, a safe, open election may be arranged. If the dictator is pro-American, communists certainly will reveal to the people through propaganda how they are being taken advantage of and mistreated. It won't be long before there is a well-supplied revolution rolling toward the dictator's capital. Frequently, dictatorship rises from selfish desires of a few men who take over a country in order to divert its wealth into their own pockets, and to realize fantasies of power. More often, the majority of people under a dictator are against him, and are controlled through force and terror. Benevolent dictators control a country to prevent takeover by communists or Marxists, but even a "good" dictator must repress freedoms and suppress his people to maintain control. This type of dictatorship likely is shown in the lined shading pattern. A friendly, but nonetheless ruthless, dictator will show a lower rating than, say, a Marxist dictator. On the other hand, a friendly dictator will show a high rating under column "f" (Other) because of the backlash which often means communist revolutionary forces are already at work. (3) The tribal factor is especially important in the African nations where tribal disputes are traditionally settled by bloodshed. Naturally, communists will support and exploit what appears to them to be the strongest tribe. On example is represented by events in Rhodesia. (4) Religious governments are sufficiently important to assign a column to them. column "c." Many countries, especially in the Mideast, are controlled by religious factions or cults, along with religious laws which are usually in conflict with the laws of the land. There is a fifth type of government which might be termed the "ammo-matched weapon." All nations must have arms to defend their borders-and there's always trouble at everyone's border. Also, most nations have depleted treasuries which means they must stock their arsenals in the most expedient way possible. Once committed to a particular source of weaponry, the nation must maintain a working relationship with that source to replenish expended ammo, and to acquire spare parts for battle gear. Even among once-friendly nations, a change from U.S. stencils on packing cases to U.S.S.R. will indicate a change in alliance.

(c) Religious zeal can be even more dangerous than communism, and is given a separate treatment under the third column. This shows the danger stemming from racial and tribal prejudices when that factor is present in significant strength. The greatest religious threat to world peace is the nation of Islam-the Muslims. Strict adherence to the Koran has the same effect on Americans as does the communist Manifesto. That is, neither religious nor political factions can tolerate competition with any other philosophy. In the case of fanatics, they will happily, joyfully die in order to kill anyone who does not believe as they do. Evidence of this comes from the success which terrorists groups currently enjoy. (See "Terrorism," by Reg Cantrell, Survival Guide, April, 1984.) Many effective terrorist groups are composed of, or at least financed by, Islamic nations or organizations. The Far East has its share of radical cults, many offshoots of the Islamic faith. Watch for the spread and uniting of these many splinter groups into one huge force around the world.

(d) A country's economy can be the best direct measure of its susceptibility to communist takeover. Recently, virtually all Third World nations have demanded and received independence from such nations as Great Britain, France, Portugal, Holland and the U.S. Former colonies now are sovereign nations. Very few, if any, of these nations were really capable of assuming their new responsibilities so suddenly. Too often their leaders saw a chance to rid themselves of a watchdog parent country, and to start siphoning off money from the treasury into their own bank accounts. As a result, many of these ex-colonies have become bankrupt without even a sporting chance to climb out of their debts. Naturally, their populations have become poorer and, believe it or not, their leaders manage to convince the people that all their troubles have been caused by the U.S. The government has no choice but to go outside

for help. Usually, the communists are already at the door, willing to provide a handout. Instead of giving a country a loan, the communists take back a contract that assures them of future control over the former colonial country and its populace. Don't forget for a moment that all of the foregoing weaknesses being exploited by the communists apply to the U.S. as well.

(e) Five factors connected with a country's location can encourage takeover by neighbors or communists: (1)
Location adjacent a communist nation is not much assurance for longevity, as sooner or later that nation will be absorbed into communism. (2) A strategic location in any part of the world—such as a Pacific island located on a major sea-trading route—is an interest Russia is exploring already in the Pacific, and a number of island nations

This is the nation in which most readers plan to survive!

report receiving attractive offers from the Soviet Union. (3) When a nation lies between the communists and one of their objectives, you'll find such action as that now afflicting Namibia. (4) Almost all nations have suffered serious territorial disputes at some time in history, likely because of neighborly aggression—take Lebanon and Syria, for example. (5) Any nation which enjoys rich, natural resources would do well to have a well-trained army to protect it, especially when its neighbors are short of resources important to industrial and arms production.

(f) This column covers any of the behind-the-scenes activities that take place in each country. Mainly, these events are not secret, but the media do not report the significant effects on the freedoms of nations. The process by which a nation loses its freedoms and succumbs gradually—sometimes suddenly—to despotic forces such as communism is extremely complex and obscure until all the media smoke which makes daily news so hazy as to

its true meaning is filtered away. It is important to realize that there is a war, not the shooting kind, going on all around you. Only a few highlights can be treated in this article. In addition to religious, dictator and communist elements discussed, another threat comes from a number of respected world leaders who believe in oneworld government. The implications of this idea are tremendous. The U.S. would be forced to give up the Constitution. Islamic nations would be forced to abandon their beliefs. Wars would be fought to convince most nations to make the change. Some people are naive enough to believe sincerely that one-world government would really work immediately. Others see the vision as more power and wealth than is available from but a single country. One group leading this movement is a collection of international bankers. By lending more money to nations around the world than these countries can ever hope to repay, the bankers have virtually established mortgages on the entire world. They are about ready to foreclose by trading bail-out money for control of these nations. To accomplish this, they must agree to work together in one accord. To this end, you will find them collecting in various organizations that are capable of making laws, or influencing others to make them. Watching the actions of these organizations makes it convenient to monitor their moves. Closely allied with one-worlders are socialists. Marxists and extreme left-wing politicians. To some degree, these are wellmeaning people who believe this is the way to Utopia. The chief problem is that socialism is one of the foundations of the communist movement. By establishing a socialist dictatorshipthat is, by removing all individual freedoms-the socialists and their followers are building the "software" plan into which the communists will insert their own program when the time is right. One way to measure communist progress is to examine the strength gained by minority groups each passing day. Congress, in fear of losing votes, passes laws favoring minorities, automatically taking away certain freedoms from the majority. Consider that thousands of these seemingly insignificant laws are being passed daily across the country, the total impact is horrendous, disastrous to freedoms and to the Constitution. To make matters



worse, communist-trained leaders entice minorities into the belief that they aren't getting their way fast enough, and the result is that a large guerrilla army is being formed right here in the U.S. Many of the minority organizations recruit members for terrorist and guerrilla training by communist cadre, some here, some in other communist countries. The communist-trained become the leaders as their revolution builds steam. When you know who these people are, and see or hear their names in news articles and broadcasts, the pieces fall into place. Some simple arithmetic will show that if all the minority groups and their members were added together, the combined U.S. military forces might be outnumbered in an all-out revolution. These are but a few of the obvious dangers. Many other groups are sapping American strengths: cults. drug users, witches, Satan worshipers, criminals, crime syndicates and more. The growing danger here is the indication that these types of individuals are the numbers for the United States. making a move to organize into one huge, worldwide group which would like to live in a lawless world. One of these organizations has surfaced and can be measured to some extent. There is much more that can be included under column (f), and it applies to each nation, including the U.S. Keep in mind that when you read about bloody wars and revolutions taking place in other parts of the world, the factors under column f have already set the stage. Leaders of fallen nations have been trying to warn Congress: America's turn is coming.

(g) The total points a country earns does not place it absolutely in an accurate position on the "Survival Quotient" scale. There are many considerations and weightings that cannot be included here. However, faithful perusal of daily news will provide insights by which changes should be made.

Future Problems-Before concluding this article, it would be well to focus your attention on some future problems not reflected directly by the Index. First, in eastern Canada, the pot has been boiling for some time between French- and English-speaking communities. There has been talk of independence for Quebec, separated from the entire English-speaking part of the nation. Problems could grow.

Baja California, part of Mexico, is so completely isolated from the Mexican mainland, and with closer economic ties to the U.S., some kind of split or conflict is conceivable in the future.

In the South Pacific, few people are aware of the pressures that have started to apply to lonely, defenseless island nations which have recently received independent status from Britain, New Zealand, Australia and the U.S.

In the relatively neglected southern Philippines, especially the island of Mindanao, there is considerable unrest which stems from problems that date back to the turn of the century. Communists are now becoming bolder and organizing the highly independent Muslims in that area. It is likely that Manila could lose one or more islands.

The northern Philippines, populated mainly by Christians, are anticommunist, and loyal to the U.S., despite the despotic dictator Marcos.

Summing up, look thoughtfully at Perhaps the only thing that holds America together is a strong tradition of freedom and integrity, aided by a strong industrial and agricultural economy.

A large percentage of our freedoms have vanished already—ask any small businessman. Our industrial output actually has reversed itself over the past couple of years. Morals and integrity have been wavering, as is evidenced by films, magazine content, and television programming. Now, with relaxed government controls, inflation again is starting to climb.

Considering that the U.S. is hopelessly in debt, and after a look at the threats displayed in the Index, you may surmise that America's survival quotient may be much worse than these numbers indicate.

Those Americans who actually survive eventually will be those who know what is happening now, and who know what is coming, and those who, consequently, are prepared.

More survivalists would do well to take an active part against the complex forces that affect everyone's future. Americans cannot simply sit back in well-stocked blast shelters and smugly wait for the end.

The United States of America is the strongest, perhaps the last, hope for freedom and peace in the world.

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Self-Test

Who knows which among many facts learned from books and/or actual experience will be the bits of knowledge needed expressly for your survival? Questions and answers in this exercise are designed to determine where gaps exist in your personal store of survival knowledge. Questions are taken from a variety of books, including texts on first aid, military tactics, nutrition, edible plants, home security, firearms, bushcraft, hiking and backpacking, animals and reptiles, and, of course, survival. When you uncover a weakness, a fact missing, research in that area to make yourself more expert in the ways and means of survival.

14.

- What plant has green leaves, white flowers, grows in the Northern Temperate Zone, resembles a carrot or parsnip, and is deadly poison?
 - Green lichen.
 - B Wild cucumber. Water hemlock.
 - Scotch broom.
- The flesh of which fish is poisonous?
 - Bonefish.
 - B. Surgeon fish.
 - Cuttlefish.
 - D Stingray.
- If you are in the desert, where daytime temperatures reach 120 degrees, with 10 quarts of water, and walking only at night, you can expect to last:
 - A. B. 3 days.
 - A week 8 days.
 - 11.5 days.
- You are caught out in the woods as darkness falls. It is very cold and snowing. You should:

 - Build a huge fire to keep warm. Build several small fires in a circle and B. sit in the middle to keep warm.
 - C. Builld a medium fire against a bank so that it reflects heat to keep you warm.
 - D Build a shelter, with a small fire inside.
- In using lodine to treat a wound, it should be:

 - Poured directly into the wound. Used to sterilize the skin around the B wound.
 - C Poured onto a gauze pad, and then applied to the wound.
 - D. Used only when the wound is deep and the danger of intection is almost
- What plant makes a good short-term insect repellent?
 - Juniper berries.
 - 8 Cascara bark. Wild onion.
 - Watercress.
- A home-defense oun ideally should be:
 - Kept loaded and cocked at all times.
 - Kept locked away where children and/or visitors cannot touch it. B
 - Kept unloaded and separate from its ammunition.
 - D. Kept high on a closet shelf, out of reach of children.

- If a wound displays arterial bleeding, the first thing to do is:
 - Suture the wound closed. A
 - B Elevate the wounded area.
 - Apply pressure directly to the wound.

 Apply pressure to the nearest pressure D. point between the wound victim's heart and the wound.
- Vitamins and minerals:
 - Usually are lacking in a normal diet, so must be supplemented with massive daily doses of vitamin pills.
 - B Are required for life, but do not depend on one another.
 - Are required for life, and are dependent on each other, needing combinations of vitamins and minerals in order for
 - desirable reactions to take place. Are not required for life, and do not D. depend on one another.
- 10. The U.S. Crisis Relocation Plan:
 - Will dump millions of homeless refugees into outlying communities on threat of nuclear war.
 - B is well thought out and thoroughly
 - funded by the federal government, Is just that, a plan, with no funding for C administration, training or
 - implementation.
 Will dump a few refugees from big cities D into distant communities on threat of war.
- Water from an unknown source should be purified because:
 - It may hold bacteria, viruses and amoebae
 - It may hold parasites, chemicals, and pesticides.

 It may hold heavy metals, radioactivity,
 - C algae, sediment and silt.
 - D. It may hold all of the above.
- Foil-packaged foods have a shelf-life of:
 - Two years. Three years. A. B.

 - Ten years.
- How can you best convince friends and loved ones to become survivalists:
 - By coersion and force, i.e., make them prepare
 - By deceit, i.e., trick them into preparing. By cheating and lying, i.e., buying hod and arms, and saying they're for
 - something other than survival. By good example, i.e., preparing yourself, and helping others to learn about preparation and survival.

- When protein is lacking in a diet:
 - Bones detorm.

 Resistance to disease is lowered.
 - B The pancreas no longer produces
 - insulin.
 - All of the above. D.
- In order to survive on a fish-only diet, each day you would require:
 - 15 pounds of fish.
 - 10 pounds of fish. B 5 pounds of fish
- 2.5 pounds of fish.
- If the victim appears to be caught in downed 16. electrical wires:

 A. You should grab him immediately and A.
 - drag him sway from dariger. You should not touch him until you are sure no voltage is present.
 - В
 - You should hose him down with water to keep him from burning up. You should use a steel or aluminum

 - pike pole to drag him free or the wires.
- In a future survival situation, smallpox.
 - Would be no threat, as it is nearly eradicated now.
 - Would be a threat to newborns, as they B. would have no access to vaccine against the variola virus.
 - Would be a threat to infants and many adults who had not received booster shots for a long period of time.
 - Would be no threat to adults who had been vaccinated before the crisis, and hence would be no threat to their children
- Gas masks: 18.
 - Usually are preventative only against
 - military gases.
 Usually are preventative against only В. one gas.
 - C. Usually are preventative against biological agents.
 - Usually are preventative against D. radiological agents.
- A Kevlar vest is likely to prevent fatal injury to the wearer's torso, if he is shot with:
 - .30s (7.72 mm NATO) or lesser caliber. 223 (5.56 nm NATO) or lesser caliber.
 - 44 Magnum or less.
 - .38 Special or less
- 20. Venison has:
 - Sufficient hat for a nuhritious human diet. Insufficient fat for human nutrition,
 - Sufficient complete proteins and fats for
 - C human nutrition.
 - Sufficient vitamins and fats for human D. nutrition.

SCORING:

For each Survival Self-Test question answered correctly, shore yourself five points, then add up your score. If your total is:

Below 70 75-80

Spend your evenings reading. Spend two-thirds of your

85-90 95-100

evenings at the books. How about half your evenings? One hard night's study per week will do for now.

ANSWERS:

0-71 9-C 20-B 13-0 8-9 A 15-19-D A-81 0-11. 0-- 1 3-8--11 0-10 A-8-91 0--6 8-5--GL n-0

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vanted to buy the test samples.

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DEALER INQUIRES INVITED

Emotional Conditioning:

DEPRESSION

You can beat it through this system for learning and practice . . .

By Robert R. Douglas

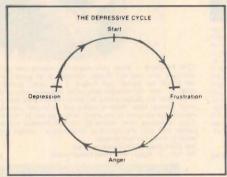
ANY BOOKS and articles are being written about survival sites, equipment and weapons. This is valuable information, but the essential survival factor will be your physical health and emotional stability. A physical or emotional breakdown will render the best equipment and plans worthless. The importance of good physical conditioning is well recognized, and can be maintained by exercise, regular medical checkups, knowledge of first aid and adequate medical supplies. Emotional health is often minimized or ignored, but it is crucial to your ability to think and function under stress. In survival situations, extreme and prolonged stress can be expected.

Among the most common emotional problems of *civilized* people is depression. Mild, brief depressive spells are common and unavoidable. Everyone has days of feeling sad, burned out or bummed out, but when these episodes become severe and extended, they are disabling.

Symptoms of serious depression are: sadness, low energy, lack of interest in anything, loss of appetite (or overeating), difficulty in getting to sleep or waking early, and being unable to get back to sleep. A continuing depression creates feelings of being helpless, hopeless and frustrated. Thoughts circle around a pessimistic, self-critical track, adding to the misery and confusion, rather than helping to think up answers to the problem. Ultimately, suicide can seem a reasonable solution.

Long-term and/or acute depressions are usually treated by psychotherapy and anti-depressant medications. When the condition becomes overwhelming, hospitalization may be required because of suicidal risk. Statistics show that age levels for depression have dropped from 40-50 pre-World War II to early to mid-30s

today, and women are affected four times more than men. Women are more prone to depression from problems or losses in relationships, such as children, lovers or husbands. Men become depressed when they feel they're "not making it" in terms of confidence or success.



This cycle may move slowly enough so that you will be able to recognize its stages, or it may thy by so swiftly that you feel depressed instantly.

Depression is described as a civilized problem, because modern living, especially in cities, frequently produces frustration, but blocks emotional reactions to it, especially anger. Unresolved frustration and anger are the prime causes of depression. Suicide rates, a good measure of depression, have been high in Japan where society is highly structured and people are crowded together. The stoical Swedes also rank high. By contrast, Mediterranean cultures consider open expressions of anger and grief normal, making these people less inclined to suicide. Cultures which require bottling up these strong emotions produce more people with depression and/or physical problems.

The popular notion that people who threaten suicide don't follow through isn't true. Some will kill themselves without threatening, while others may threaten—to manipulate or get aftention—and finally do it. The threateners

may miscalculate and take too many pills or not have the ambulance arrive in time so that the gesture becomes the real thing. Any depression which appears substantial must be taken seriously.

Depression follows a cycle as it moves from one stage to the next, as shown in the accompanying illustration. (1) Frustration arises from feeling you must do something you don't want to do, or feeling blocked from something you want. An example of the first is keeping a job you hate because you need the money. The second is being unable to get a desirable job due to lack of education or experience. Unrelieved frustration leads to (2) anger. You want to attack the frustration or frustrator verbally or physically. If you can't or won't, you turn the anger back on yourself and become (3) depressed. The cycle may move slowly enough to recognize the stages or they may fly by so quickly that you feel instantly depressed.

It's difficult to accept the idea of depression starting with frustration and anger because these emotions are active while sadness is passive. Feeling trapped in a lasting depression is like being stuck in quicksand, the harder you struggle, the deeper you sink. Avoiding depression by catching it at the earlier frustration and anger stages has a much better chance than attempting to escape once the feeling has a firm grip on your emotions.

If you feel frustrated by a person, talk to that person, explain your reaction and try to settle the problem or work a compromise. Chances for a solution are much better than if you stew in silence. People are often reluctant to talk about an irritation because it seems "such a little thing." If it upsets you, it's not little. Your personal reaction is the best measure of importance.

The frustrator can be large and impersonal such as the IRS, phone company, or other big business or bureaucracy. The saying, "You can't fight city hall," expresses the hapelessness of these situations. But many people do succeed in beating traffic tickets or getting the IRS to reverse a decision. Even when you don't win, you have the satisfaction of doing as much as you can. This, in itself, reduces frustration. At the very least,

you can admit to yourself that you are really angry, complain and blow off steam to friends and family. Throw yourself into active, aggressive work or sports. All these techniques dissipate depression, while remaining quiet and isolated nourishes misery.

Basically, nothing or no one can make you depressed. Bad or even terrible things can happen, but individuals make themselves depressed by how they react to these events. By paying close attention when you enter a slump, you will notice thoughts such as: "Nothing ever works out." "Why does this always happen to me?" "What's the use of trying?" Other such phrases may be typical for you. These discouraging thoughts and feelings combine to bring you down. By forcing yourself to change to positive ideas and to become active, the slide into depression can be avoided. You must force yourself because without a strong, conscious effort, the cycle will run its usual course.

Depressing events are common in life. People get older. Physical abilities decline from age or illness. Loved ones leave or die. People aren't appreciated or fail to get the rewards they believe they deserve. Burglary, with the loss of valuable or even irreplaceable property, is on the rise. Personal attacks in the forms of assault, rape and robbery are increasing. Inflation and high-priced, shoddy goods effectively rob the individual. Taxes become increasingly oppressive. The threats of social breakdown or nuclear war lurk as future possibilities.

In the face of all these things, you could well decide that life is hopeless and disastrous. Giving up might seem logical. On the other hand, history shows that life has never been easy. Golden ages only existed in myth or nostalgia, never in fact. Throughout mankind's history, the survivor's main resources have been his intelligence, physical stamina, imagination, and flexibility. It was necessary to maintain these personal resources in top condition for continued existence. This requirement is equally true today. You can't afford to allow your personality to become disabled by depression, anxiety or confusion.

Daily life confronts everyone with (Continued on page 66)



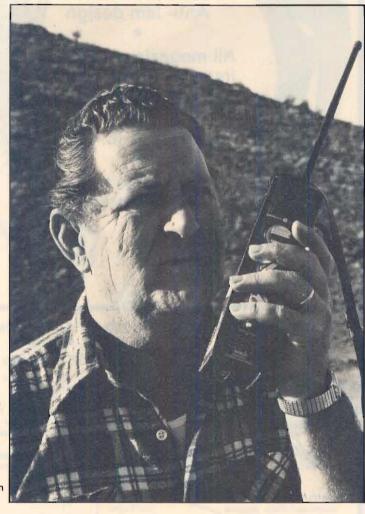
Don't Betray Yourself:

COMMUNICATIONS SECURITY

On the telephone, your conversation is private, unless it's bugged . . .

On the radio, you tell the world, at least anyone who cares to listen . . .

By Tony Lesce



Your radio can betray you! Before you speak: Listen! Someone else may be on the channel. It's better to eavesdrop than be overheard.

ANY SURVIVALISTS foresee the need for CB radios in a crisis, but, unfortunately, using a transmitter can bring an enemy or predator to your doorstep. If you use radio to communicate with another member of your party, anything you say can be

used against you. It is even possible to locate you by homing in on your signal.

Normally, the Citizens Band channels are chaotic, with everyone speaking at once, so that it is very difficult to understand what anyone is saying. In a survival crisis, however, expect the airwaves to be much more quiet, as survivalists won't be burning up their batteries for idle chatter. It will be easier to listen in on a transmission.

Any survivalist who plans to use CB should be aware that each time he transmits he advertises his presence, and if he is chatty, he will give away vital information, such as his location and plans, to anyone within range. "Anyone" may include an occupation force, a repressive government, or a band of marauders.

Some survivalists are concerned with having a retreat, away from it all, as a shield against whatever they see coming. Some foresee various possibilities, or scenarios, as follows:

- Emergency Powers—During a crisis, the government proclaims a state of emergency, confiscating guns, stockpiles of food, and other resources.
- Foreign Occupation—A foreign power occupies the country, with confiscatory decrees as broad as the ones outlined above. Everyone must register with the occupying army, and get an identity card. Anyone not complying with the decrees is subject to execution.
- Marauders—During a crisis, outlaw bands prey on the survivalists who have stockpiled food and other supplies. Law enforcement is ineffective, and survivalists must defend themselves.

In all of these scenarios, it is clear that the first line of defense is concealment. This means not only physical concealment, but keeping a low profile by other means.

Few are aware how vulnerable the use of a radio makes them. The first, and obvious, fact is that anyone who monitors the bands becomes aware immediately that there is someone else out there. Because CB is short-range, anyone who hears a transmission knows that the sender must be within a few miles, or even within a few hundred yards.



To locate a transmitter, note in which direction you must point your receiver's antenna to obtain the loudest reception. Retracting the antenna sometimes provides a more directional effect.

What you say can give you away. Let's eavesdrop on an imaginary conversation:

Mobile: "Hey base, I'm coming in with the water."

Base: "Okay. Come in by the Redman Road turnoff and I'll keep an eye out for you."

Anyone who hears this knows that there are at least two people, that one is mobile and one is fixed, where the mobile person will be shortly, and what his cargo is. This sets up for either following or ambush.

Let's eavesdrop again:

Mobile: "Base, I see three people in a truck coming down the road."

Base: "Roger. I'll send Chuck and Mike out to help. Are you still in the bushes behind the gas station?"

Mobile: "10-4."

If the people in the truck have a CB, and are listening in, they know that they've been spotted, and how many they can expect to meet shortly.

The military and the intelligence services call this "traffic analysis." It's possible to learn a lot by listening in to unquarded conversations.

Direction-finding is another technique for locating a transmitter. As with traffic analysis, this complex of





nyou'll find it more sensitive than your ear. Note the difference in indicated signal strength with change in position of the antenna.

techniques finds wide use among the military. During World War II, for example, the Allies located and sank German U-Boats by monitoring their radio signals.

Radio-location depends on two techniques. Even the military's classified equipment uses the same basic principles of signal strength and relative bearing. It's possible to judge how close a transmitter is by the strength of the signal. Anyone who tries to find a transmitter can tell whether he's getting closer or farther away by how loud the signal is.

Direction-finding by relative bearing depends on the fact that many antennas are directional; the strength of the signal relates to their position. Anyone who has used a television with a "rabbit ears" antenna knows how this works. Even certain types of outside antennas must be pointed toward the transmitter for best reception.

Even an antenna not constructed to be directional receives better in one position in relation to the transmitter. A few tests with a friend operating the transmitter can show you what position gives you best reception with your antenna. The results vary with the type of antenna, which makes it absolutely necessary to run tests on your own equipment.

Anyone who tries to locate a transmitter, unless he has very specialized equipment, will not know from which side the signal is coming, even when he finds the position that gives him the strongest reception. He will, however,

know that the transmitter is somewhere along a certain line. If he changes his position by a few hundred yards, he'll find that the bearing is different, and he'll be able to plot the bearings on a map, or even judge them intuitively, to find where they meet, which will tell him the location of the transmitter.

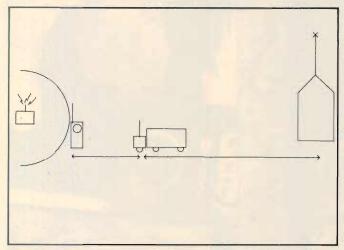
If there are two receivers, the task is easier and quicker. Each can "home in" on the transmission simultaneously with the other, which will be important if the transmission is short. Unless the person operating the transmitter is a "motormouth," there may not be enough time for one person to move far enough to get a second bearing.

From this brief understanding of the ways in which your radio can be used against you, it's possible to lay out some defensive measures to eliminate or reduce the risks:

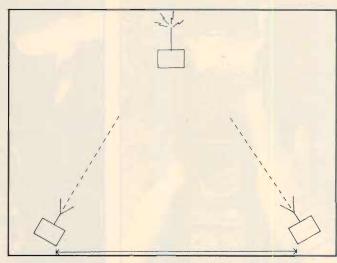
 Keep radio silence. This is the ony sure defense. An eavesdropper can't hear you if you don't say anything. You can use landlines for communication, if possible, stringing telephone wire from one site to another when you have enough wire. You can send someone to carry the message, which is usually practical because few messages are likely to be urgent.

Use the radio only for listening. You probably have already planned to do this, as in a crisis you will depend heavily on the Emergency Broadcast System, short-wave, and other bands for your information. This has the

COMMUNICATIONS SECURITY



A CB like yours may be able to hear you at ranges up to 2 miles, but another receiver can detect you at greater range because it has a larger antenna. A long antenna is more effective for transmitting and receiving. A large and costly set offers greater sensitivity, hence can receive transmissions from many miles away. Add the long antenna and the sensitive receiver, and you can understand that your transmissions propagate far beyond your area.



Triangulation is the basis of radio direction finding. Each seeker takes a bearing on the strongest signal indication. Where the two directional lines intersect is the location of the transmitter. In reality, radio direction finding is not as neat and tidy because signals reflect off buildings and bounce off hills, and are absorbed or blocked, making bearings inaccurate.

advantage of saving your batteries, as listening uses far less power than transmitting.

 Listen aggressively, sweeping the various channels available to you.
 Someone may be transmitting near you, and you'll want to have a chance to determine whether they are friendly or hostile, and what their intentions are. Use the same techniques that might be employed against you—traffic analysis and direction-finding. If you have two radio sets, position them several hundred yards apart, and establish phone communication between them, so that the two operators can triangulate on a signal quickly.

• Prepare in advance for some rudimentary direction-finding. Find out how directional your antenna is, and if you feel that it won't do the job, construct a simple directional one. While antenna design is a very complex subject, and designing a technically correct one requires some mathematical calculations, you don't have to do a perfect job. For your purpose, a cheap and dirty direction finder will do.

There are several ways to make a directional antenna. One is a simple V-beam, as shown in the accompanying photograph. Two feet of No. 10 copper wire, a jack, and some solder are all you need. This antenna receives best when the open end of the V points toward the transmitter.

Another is the dish antenna. This is simply a metal bowl, or floodlight reflector, with a short piece of wire in the center. Strictly speaking, this type of antenna is more suited to microwaves than the CB band, but it will work well enough. The cost of building the one shown was about \$2.

This antenna is simply an antenna jack with a wire leading into the bowl through a threaded tube, the sort found in lamp fixtures, with about two

inches of wire extending into the dish. The threaded tube shields the wire from radio signals, so that the only part of it that acts as an antenna and picks up signals is the short length inside the bowl. The metal of the bowl shields it from back signals, so that only the ones in the direction of the open end of the bowl will register.

Neither of these antenna is technically correct. Neither one is electronically matched to the receiver, and the stub of wire used in the dish antenna will not pick up signals very well, but both will do the job well enough.

You'll probably find that the signal strength meter on your set is more sensitive to variations in signal strength than is your ear. The human ear judges sound in increments of ten, which are called decibels, and slight variations will be difficult to pick out. This is especially true when listening to human speech, rather than a steady tone. The signal strength meter measures the strength of the signal, and provides a visual readout, which is easier to detect as long as there is enough light to read the meter.

When you pick up a signal, and get a bearing, look in both directions, as you may be getting a back signal, depending on the type of antenna you're using. This is most likely if you're using the one that comes with your radio. You may be able to pick out the source of the signal visually. If you can't, you must set up a baseline, either moving along a few hundred

Number	Meaning
1.	I am at
2.	Base.
3.	Sentry post.
4.	Town.
5.	HIII.
6.	Valley.
7.	Meet me at
8.	I need help.
9.	People.
10.	Vehicle.
11.	Armed people.
12.	Danger!
13.	I am injured/hurt.
14.	Repeat.
15.	Return/recall.
16.	I found It.
17.	Going off air.
18.	Any messages for me?
19.	Help is on the way.
20.	Can't send help.
21.	Prepare to bug out.
22.	You've been detected.
23.	I've been detected.
24.	No danger.
25. 26.	Should I open fire?
27.	Open fire! Don't shoot!
28.	Send messenger.
29.	It will keep until we meet
30	I (We) are under attack.

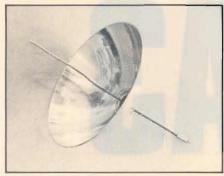


With a directional antenna, you can locate a signal's source by plotting with map. This is effective over long distances when the transmitter is out of sight. When range is estimated to be short, the directional antenna points to the target.

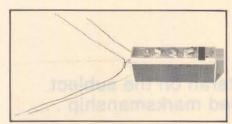
yards or coordinating with another listener.

- If you must transmit, keep it short. Remember that the longer you stay on the air, the more time you give a listener to find you. Keeping your transmissions brief is not difficult to do, as matters which require use of the radio usually do not demand detailed explanations. If there is something which requires an extended discussion, walk or ride over. Any ernergency transmissions will be short.
- If necessary to transmit, do it away from home base. You might send out a party to explore the area, telling them to transmit any significant information by radio. Have the home base operator take his equipment some distance away, so that anyone trying to home in on transmissions will not find your location.

Even if you haven't enough wire to run a landline to the transmitter, there are ways to work around this problem. Signalling by mirror, or by shielded flashlight at night, provides communication when there is a clear line of sight. Except in an emergency, you should be able to select a secondary site that offers line-of-sight.



Reflector, threaded tube and 10-gauge wire cost about \$3. Assembled, the directional antenna rests on its screw-in jack. In practice, the center wire was too long, picking up every signal in the area. It was necessary to trim it to a stub about 2-inches long.



V-type directional antenna comprises 3 feet of 10-gauge wire and a jack joined by solder. The strongest signals come from a transmitter located in the direction of the open end of the V.

Use the least signal strength possible to do the job. In ordinary times, using the full power of your set is advantageous, as it enables you to achieve maximum reach and overpower interference, but if you're concerned about possible listeners, using high power would be indiscreet.

Most transmitters have a selector switch, for either high or low power. Even the cheapest walkie-talkies have telescoping antennas, which you can manipulate for minimum signal strength. Do not extend the antenna any farther than is necessary, to avoid propagating your transmission unnecessarily.

As a practical matter, CB sets vary in strength, with the minimal ones having a range of perhaps half a mile, under ideal conditions. More powerful transmitters, using full legal power and with good antennas, easily reach 5 miles under good conditions. Intervening buildings, hills, and other obstructions can reduce this, while transmissions over water will extend the range.

Some CBers, in violation of FCC regulations, have linear amplifiers connected to their transmitters. These can extend the range far beyond the one for which the set is designed.

Excessive propagation can be dangerous, as it extends the area in which someone can hear you. Keeping the power down will help protect you.

 Use code. If you must transmit, at least avoid giving away any information about yourself, your party, and your location and plans.

Using code has two purposes: to conceal information and to shorten transmission time. Often, the two purposes work together, although there are some examples of codes used only to shorten time on the air.

The police codes are a good example. During busy periods, a police dispatcher must control a number of units, and the well-known "10-codes" are a means of cutting air time. It takes a lot less time to say, "10-7," than it does to say, "Out of service." "10-98," similarly is briefer than, "Am finished with last assignment." Police codes do not conceal anything, as many people know them and they have been published. Their only purpose is to save time.

Concealing information is not much more difficult. It is easy to make up a list of numbers to correspond with various meanings you know you'll need.

There are two points to watch when compiling a code. One is to plan to change the code often, on the offchance that someone has been listening and has been able to figure out the meanings from the context. As it is impossible to cover all of the possible messages you might need and still keep the code list short, you will have to transmit some messages partly in plain language, or "Clear." For example, "97" means, "Meet me at," but you may not have a code number for "... the church off Route 19." Your message would then be, "97 church off Route 19." After several of these, a listener would start to get an idea of how your code works.

Another way your code's security might break would be human error. One party might say that he had not understood the last transmission, and the other party would repeat the message in clear. It is a cardinal error to repeat a coded message in clear, as this gives the code away, but it happens from time to time.

The second point is to avoid riumbers or words that sound alike and which might either be mistaken for (Continued on page 68)

Ugly Duckling:

THE SALE

Check with a combat veteran on the subject of volume of fire vs. skilled marksmanship . . .

By Ron Kruger

HE SPRINGFIELD '03A3 was conceived in desperation when World War II caught the U.S. military without errough 1903s and M1s to go around. The '03A3 was basically the 1903, redesigned for rapid and inexpensive production. The weapon was manufactured in large quantities by a number of civilian contractors who did not exactly attend to fit and finish with loving care.

When the war ended, military establishments around the world began to rearm with modern weapons and dumped their obsolete turnbolts on the American civilian market. A lot of class rifles were available for peanuts during the '50s and '60s, and with such competition, the ugly duckling '03A3 never developed much of a following.

Most of the good Mausers are gone now. The prices on 1903s, M1s, carbines and other desirable rifles have gone out of sight. But there remain large numbers of the '03A3s collecting dust in used gun racks and closets, often in like-new condition, just waiting to be snapped up by dollar-conscious survivals.

Why would a survivalist want such a clunk? Well, it's tough, reliable, inexpensive, and comes off fairly well in comparison with other often-recommended survival guns.

Naturally, the '03A3 isn't quite in the same class with the various assault rifles favored by serious survivalists. It has a 5-round magazine and is manually operated. One man armed with an '03A3 probably won't stand off a hoard of belligerent barbarians. Neither will one man with an M60 machine gun. One might wish to check with a combat veteran on the subject of volume fire vs. skilled marksmanship.

If you have one of those expensive assault rifles and figure you're well-prepared, let me cautiously suggest that even the best of them can break. How many backups do you have? An '03A3 held in reserve beats a broken assault rifle.

I own several high-priced, volume-fire rifles and like them. They represent a substantial investment and spend most of their time locked up. This '03A3 spends most of its time in my pickup truck, car trunk, and other low-security places. If it should grow legs and walk away, I'm not out too much. An \$800 assault rifle stolen would hurt.

If the '03A3 is outclassed by the exotics, it looks much better when compared with just about any of the sporting rifles in the survivalist's battery. The use of stripper clips allows a higher rate of sustained fire than the poke-them-in-one-at-a-time reloading method required with most sporters. Then, too, have you ever tried running a fast 100 rounds through your pet sporter? Or 50? Even 25? You'll need heavy gloves. All that ugly wood on the '03A3 is there to insulate the shooter from hot metal. Consider also that most sporters weren't designed for sustained fire, and some of them aren't up to it. Parts break and malfunctions occur.

Many of the sporting rifles chosen by survivalists are expensive and frequently need modification and addition of aftermarket accessories. Good '03A3s can be found for well under \$200 and come ready to go. Spare



The author's daughter holds the big, husky '03A3, the premier candidate for backup duty.

parts are readily available at bargain prices and can generally be installed by unskilled owners, something not all that common with sporting arms.

The issue sights seem crude at first glance. But that ugly rear sight is actually more durable than most sporting sights. A klutz once dislodged my rifle from its pegs 6 feet above a concrete floor. A large ding on the left ear of the rear sight testified as to the point of crash contact. No damage, no change of zero resulted. Try that little "field test" with most other sights. This sight is easily adjustable, using only fingers, and is very shootable.

Like most of its contemporaries, the '03A3 has a two-stage trigger pull that just doesn't compare with something like a Remington 700. But it is useable, and is probably safer and less likely to get out of order than many sporting triggers. And that big wing safety blocks the striker, not just the trigger, as is true of many sporters. This extra margin of safety is a real asset for the survivalist who plans to carry around a loaded rifle as a matter of course.

The '03A3 is chambered for the old reliable .30-06 cartridge which can be obtained just about anywhere and is versatile enough for everything from mouse to moose. When fired in the '03A3, brass can easily be reloaded with portable Lee or Lyman hand tools, something not generally practical with brass that has gone through assault rifles or some other action types that require full-length sizing. Survivalists who wish to go the

Rear sight is exceptionally rugged, easily adjustable, and contributes to 2 much groups at 100 yards.

whole route can obtain sub-caliber chambers that permit use of .22 rimfire, .30 Carbine, .32 ACP, and possibly other cartridges in this rifle. And, if you foresee the need of a potent varmint round in your '03A3, try the Remington Accelerators which fire a saboted .22 bullet at something like 4,000 fps.

Accuracy varies from one rifle to the next. Mine will shoot 2-inch groups at 100 yards—about the limit of my ability with iron sights. It puts the first shot from a cold barrel right in with the rest of the group, and does not shift point of impact as the barrel heats up—or as the humidity changes, or from one year to the next. You can spend a lot on a good sporter and obtain no better performance.

I had to do some simple tuning to get this, just as with any rifle. The bedding around the recoil lug was pretty sloppy, so I set it in glass bedding compound. If you elect to do this, and are doing it for the first time, study the directions that come with the glass bedding kit. I also used sandpaper and a 1/2-inch dowel to relieve the barrel channel at the point where barrel and stock pass through the upper barrel band. The barrel should have about 1/32-inch clearance here, just enough so it doesn't bind against the wood or barrel band. This isn't

The stock is good, straight-grained walnut and, as per military specification, was soaked in hot oil. That, and at least 40 years of age seem to have cured any tendency to "walk around" in wet or humid conditions. I have some good sporters which, even after tuning, are not this stable.

critical, but your rifle should group

better if this is done.

There are a few caveats for potential



For best accuracy, the 'WA3's barrel should clear stock and barrel band at this point.

purchasers of an '03A3—or any used gun. Back when these sold on a perpound basis for less than prime steak, a lot of basement gunplumbers bought them, screwed them up, and sold them. If you get one, have a competent gunsmith check it for headspace, sear engagement, and other safety considerations.

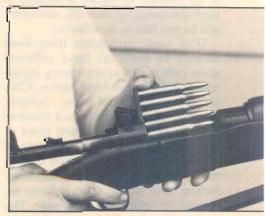
You might find a poor barrel. New 2- and 4-groove barrels are available—cheap. So are new semi-pistol-grip stocks, in case yours has a straight-grip stock and it doesn't fit you. And, if the stamped buttplate, trigger guard and barrel bands turn you off, their milled counterparts for the Springfield 1903 are available.

The rough stock exterior can be smoothed up with sandpaper and steel wool, followed by a few coats of linseed oil or tung oil. I don't recommend using a commercial stock finish unless you contemplate using your rifle as a signal mirror.

None of my rifle's parts have ever broken. Considering the massive construction of most parts, I don't expect any failures. But I do have firing pins, strikers, follower spring, sear and extractor. This is very cheap insurance. I have these parts for most of my guns

If you can't find an 'O3A3 locally, or need parts, check with the many sources in The Shotgun News. If you're a survivalist and are not yet familiar with this tri-monthly publication, send \$15 to The Shotgun News, Box 669, Hastings, NE 68901.

There are many prettier guns than this rifle, and some that shoot faster. Few are any more accurate or tougher or more reliable. It is very useable for many survival applications and merits consideration.



Reusiable stripper clips facilitate loading and primit rapid rate of fire for a bolt-action rifle.

The SURVIVAL CELL

Buying great numbers of batteries to replace batteries that have gone flat in storage is a thing of the past . . .

Staff Report

PHOTOS BY SALLY EPPERSON

URRICANE! Blackout! Earthquake! What? Or it could be 2 o'clock in the morning in bedroom darkness: "Bill, Bill! Wake up! I heard a noise! Go see what it is!"

Any nocturnal scenario will cause a survivalist to reach for his flashlight. However, whether a bright beam lances into the blackness as the light is switched "On" is a matter for conjecture.

It goes without saying that whether the crisis is electrical grid failure as the result of nuclear attack, or is as routine as a blown household circuit breaker, battery-powered lights are a necessity in emergencies.

The light-giving cells, however, must be fresh, ready to produce electricity—now!

How long has it been since the cells in that emergency flashlight were changed? How long ago were those replacement cells purchased? Where were they stored? In what range of temperatures?

Whatever the case, if the flashlight is switched "On," but fails to produce the desired illumination, a routine emergency situation may quickly deteriorate into dire trouble. Example: There is no chance to suture a wound in pitch darkness; by morning, treatment will be too late to be effective.

Until now, survivalists have been advised to keep on hand sufficient spare cells to power emergency equipment—lights, multi-band radios, CBs, etc.—for a couple of years. Carbon/zinc and alkaline cells have a nominal shelf-life of about two years, more or less, depending on the cells' date of manufacture, for what period of time the cells were warehoused after manufacture, and how long they were on display at point of purchase. The temperature at which the cells were stored is also a consideration.



LEFT—This engineering rendering shows the knurled top of the R20-1, a quarter turn of which activates the electrical power source.

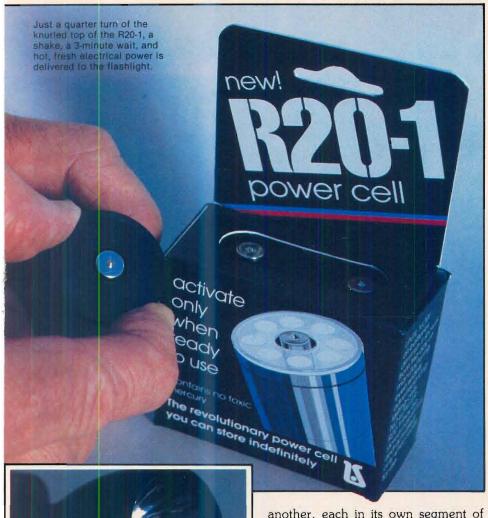
BELOW—For now, Ultimate Survivor is manufacturing only D cells which, as shown, fit standard flashlights.



The survivalist who routinely purchases and stores a full complement of cells for his equipment, stores them against emergency day, and who rotates these cells in his equipment, adding new replacement in the storage supply annually, is doing the right thing. Or has been—until now.

With advent of the R20-1 D cell, the Ultimate Survivor, buying great numbers of batteries to replace batteries that have gone flat in storage or in unused equipment is a thing of the past.

The R20-1 cell is advertised as having an "unlimited shelf-life." At least,



the cells that were manufactured more than 20 years ago, and held in storage ever since, when activated perform exactly like new, fresh carbon/zinc or alkaline cells—electrically hot, with maximum output for illumination or communication.

The inventor, Wayne R. Hruden, president of Hruden Laboratories, San Luis Obispo, California, says the chemistry of his patented extended shelf-life cell is "proprietary"—meaning secret. But he'll say this: The R20-1 is a polymeric plastic shell that resembles a carbon/zinc or alkaline cell quite closely. It is manufactured with appropriate electrical contacts, negative (—) on the bottom, positive (+) at the top. The electricity-producing ingredients are sealed inside the plastic case, apart from one

another, each in its own segment of the cell. To activate the cell, it is only necessary to give the knurled top (+) end of the cell a quarter turn. This 90-degree twist allows liquid and dry chemicals inside the plastic case to come together. A bit of a shake, a 3-minute wait, and the R20-1 performs exactly like its short-shelf-life brethren.

Hruden likes to characterize his "unlimited shelf-life" product not as a conventional flashlight cell, but rather as an electricity-making machine. "As long as it's stored, and its internal seals are intact, it's nothing, inert, a plastic lump. Only when you give the top a turn does it become a producer of electricity. That twist can come now or 20 years from now to produce an absolutely fresh power source."

Temperature has no effect on the R20-1 until it is activated. After that quarter-turn, however, the Ultimate Survivor performs as does a conventional carbon/zinc or alkaline cell, with extreme heat or subnormal cold abbreviating its productive electrical life significantly.

The R20-1 like most "primary" cells, is not rechargeable. However,

unlike many other types of flashlight cells on the market today, the R20-1 contains no mercury.

The liquid chemical in the R20-1 is weaker in acid content than Coca-Cola. One Survival Guide staff member tasted the greenish stuff, said it was astringent on his tongue, and suffered no ill effects.

For now, the Ultimate Survivor Company is manufacturing the R20-1 in D-cell size only, but has plans to introduce C and AA cells soon, and may add F cells for lanterns at a later date.

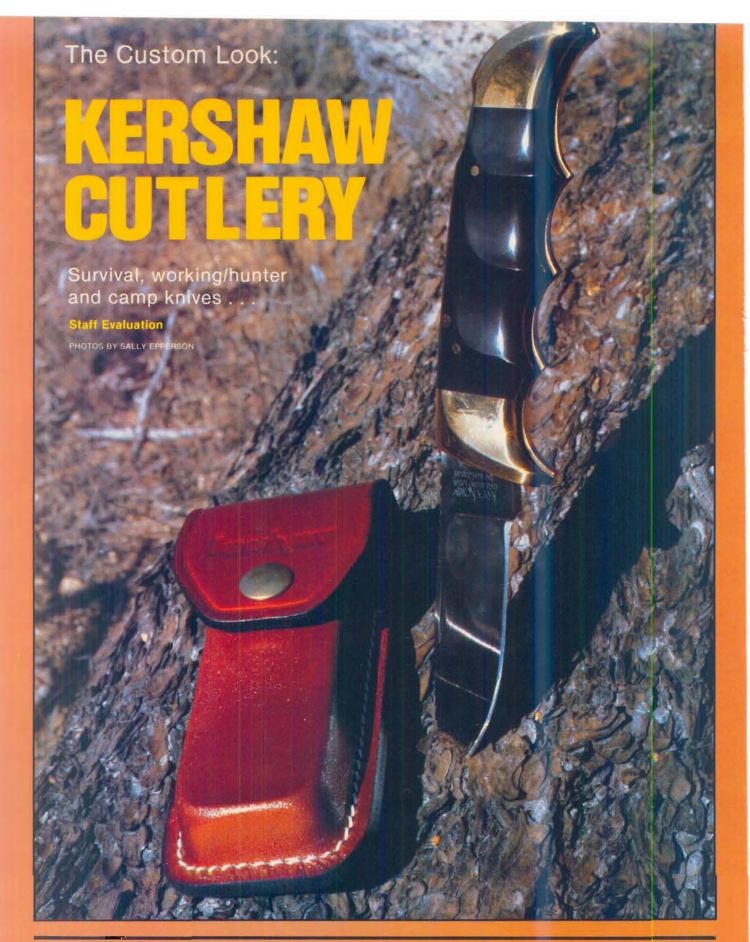
Uses the company foresees for its products are numerous—survivalist equipment, surely, as well as for outdoor, automotive, military, and police/fire emergencies. The company believes that the R20-1's capability to be absolutely fresh when delivered to the consumer, and its extremely long shelf-life are advantages. And, too, Ultimate Survivor is looking at the U.S. military market where equipment tends to be stored in hot or cold environments for long periods of time.

R20-1 cells are available by mail order, \$9.95 for two, \$23.88 for six, plus \$1.50 for shipping and handling, from Ultimate Survivor Company, 20993 Foothill Blvd., Suite 628, Dept. SG, Hayward, CA 94541; phone (415) 652-1180.

These prices may seem a bit steep, but here's a four-year comparison: In the exercise, there's one 5-cell flashlight, a 3-cell flashlight, one 6-cell multi-band radio receiver, and one 12-cell Citizens Band transceiver, making a total of 26 cells. With alkaline cells selling for about \$1.45 each, that's \$37.47 for one year, or \$149.88 for four years of full-complement battery storage for the survival equipment.

The purchase of 26 R20-1 cells at \$3.98 each totals \$103.48 once, one time only. In four years, the Ultimate Survivors will save the survivalist \$46.40. Of course, when R20-1s are in storage for emergencies, the battery-powered equipment user should employ carbon/zinc or alkaline cells to operate his equipment, and rely on the more expensive R20-1 cells only for emergencies.

The Ultimate Survivor Company will supply additional information on the R20-1 cells.



Kershaw's Folding Field Knife is a massive tool, 8.25 inches long when open. Brass handguard tang and butt bolsters give this working/hunter plenty of heft.

ERSHAW Knives of Oregon, U.S.A., offers a line of cutlery that has the look of "custom" blademaking about it—polish, balance and feel, along with obvious utility, plus, in some cases, artistry.

Kershaw's range of knives, American in design, is produced in Kai Cutlery factories in Seki, Japan.

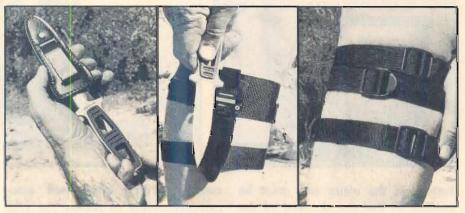
Survival Guide selected blades for evaluation from Kershaw's survival, working/hunter and camp cutlery lines, as representative of the needs of survivalists. However, Kershaw also produces a series of pocket folders, fishermen's filet blades, rotary lockers and lockbacks, collectors' knives in wide variety, including those with scrimshaw ornamentation and rare petrified wood handles, some in matched sets of two or three, some in wood presentation cases. And the firm makes gentlemen's pocket jewelry: keychain folders, folding knife/scissors combinations, knife/money-clip combination, and designs for custom monograms.

However, survival, working/hunter, and camper-style knives are of greater interest—and use—to survivalists.

The representative from the survival line evaluated by SG was the Amphibian Model No. 1006L. This knife is fabricated from a single piece of carbon stainless steel. Overall length is 7.75 inches, blade length is 4 inches, and the Amphibian's weight, without scabbard, is 4.5 ounces. The knife features one sharpened edge, and one serrated edge for cutting such materials as nylon rope. A rubberized vinyl handle insert assures a firm grip when the knife is wet or bloody. The Amphibian 1006L is supplied with a conventional leather sheath, featuring a steel spring clip for securing the blade to a belt or in a boot. An alternative model.

No. 1006P, is supplied with an ABS plastic diver's sheath, with retaining flanges that engage the flared guard of the Amphibian. The sheath can be worn on a belt, or on a leg harness comprised of a wide band of webbing, and three web straps with ABS plastic buckles, as shown in accompanying photos. The Amphibian with either sheath carries a suggested retail price of \$36.95.

From Kershaw's working/hunter line, SG chose the Folding Field Knife, a massive hand tool for cutting, 8.25 inches long open, 4.75 inches in length closed. Open, the knife resembles more a non-folding field or camp knife than it does a folder. However, this knife is built with a folding blade that locks open securely and positively. The spring-loaded lock engages more than 9/16 inch of blade-locking surface, holding the blade as rigid as if it were fashioned from one piece of steel. The Field Knife's deep brown phenolic handles are molded with finger grooves, and its brass scales are scalloped correspondingly in order to provide a firm, non-slip anatomical hand grip. This knife and its molded finger grooves fit into the largest of male hands. The blade is of tapered drop-point configuration, and is also made of carbon stainless. Blade length is 4 inches. The edge is ground at about 25 degrees, befitting a working knife. Blade thickness is 0.15 inches maximum. The entire knife weighs 8,25 ounces, more than half a pound. The outstanding feature of Kershaw's Folding Field Knife, though, is its solid brass hand guard tang and butt bolsters. Even closed, this hefty pocket folder can be used as a club to deliver no little damage to an adversary. This knife, Model No. 1050, is supplied with a formed (Continued on page 72)



The Amphibian is available with either a leather belt/boot scabbard with stainless clip, or with a plastic scabbard that features pushbutton release of the blade. The diving harness, using three ABS plastic buckles with web straps, is supplied with the quick-release sheath.



INTERCEPTER 1010

This little alarm is so good it brings tears to your eyes . . .

Staff Report

HIS ALARM system can make a grown man cry and cause burglars to wish they'd never tried it. Heart of the Scramco Intercepter 1010 alarm is a 4-ounce can of CN tear gas which, when triggered, will make any miscreant cease and desist, whatever he's doing in somebody's dwelling. Anyone who enters a 1010-protected home in the owner's absence will receive a face full of CN tear gas. This, in itself, is heartwarming, provided you're the owner. It also provides a solid sense of security.

The Intercepter 1010's CN cannister contains sufficient of the liquid irritant agent to expand into an aerosol microdroplet fog that will control an indoor area up to 16,000 cubic feet in volume.

The eye irritant spray is triggered by an infrared detector which senses an intruder's body heat as he passes through two parallel detection zones.

At a distance of 20 feet from the alarm control box, in which the CN gas and infrared detector are mounted, the two detection zones cover a field approximately 3.5 feet wide, and 2.0 feet high. At 40 feet, the detection zones span more than 7.5 feet in width, and a height of 4 feet.

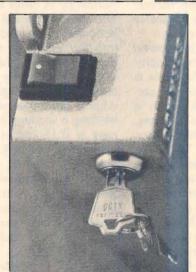
The Intercepter 1010 is powered with 6 D cells. A battery test circuit is integrated into the alarm's electronics. The alarm box unit, with the battery inside should be mounted about 5 feet from the floor, using 1/4-inch screws or mollys. The CN cannister's spray nozzle should be aimed in the direction to be covered by the projected spray. The alarm, designed for indoor use only, should be mounted where it will never receive direct sunshine, which could bring tears to a homeowner's eyes.

To arm the Intercepter 1010, the key switch must be turned fully clockwise, and the rocker switch on the

ABOVE—This is the alarm unit, CN tear gas spray nozzle upper left, infrared detector left center, and the time-delay warning buzzer lower center.

RIGHT—The rocker switch, left, must be positioned with the dot inward to arm the system. The key switch, right, must be fully clockwise. However, a Panic switch bypasses both

BELOW—The CN tear gas spray nozzle is located at the upper left of the alarm box.

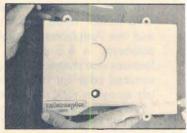


PHOTOS BY MARTIN HASA

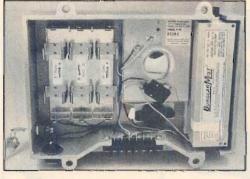


ABOVE—Mounting the alarm system to a wall is a matter of four 1/4-inch screws or mollys.

BELOW—Backside of the Intercepter shows battery clamps, left, terminal board, below, and the CN gas cannister, right.



BELOW—The Scramco Intercepter 1010 is powered by 6 D cells. Shelf-life of the CN cannister is about 4 years.



bottom of the alarm case must be pushed so that the dot end of the rocker is inward.

After this time, when the detector senses an intruder, the CN tear gas

control circuitry arms itself automatically, ready to release the cannister's spray. Meantime, the alarm circuit initiates a 20-second time delay, indicated by a high-pitched whine at 5

kHz. At the end of those 20 seconds, if the alarm's rocker switch isn't punched off manually, dot indicator *outward*, the CN tear gas floods the area, with predictable results. Burglars find it difficult to burgle in a CN-misted atmosphere.

The buzzer's high pitch echoes, bounces off walls, and generally is heard as an omnidirectional sound, so that the burglar cannot easily locate its source. However, the alarm owner, if the alarm is accidentally triggered, has time to shut things down and switch a reset.

The Intercepter's switchbox is but one sensor/trigger device. Auxiliary sensor switches can be used to trigger the tear gas—window contacts, undercarpet mat switches and the like. These switches must be hard-wired to the alarm box terminal board.

A normally open "Panic" switch can be wired into the alarm system. This switch bypasses the time-delay circuit, and releases the gas after the Panic switch has been held down for 2 seconds. The Panic switch will operate even when the On/Off key and rocker switches are in the Off position.

That isn't all. An auxiliary bell or siren, given its own power supply, or multiple additional tear gas devices can be wired to the basic alarm unit.

The CN tear gas cannister has a nominal shelf-life of about 4 years. Once the cannister has been discharged, it can be replaced with a 1010 Reset Kit, available from Scramco.

Scramco issues these warnings in regard to the Intercepter 1010: "Do not use the Intercepter where multiple tenants share a common ventilation system," and, "If you happen to be in an area where the Intercepter has discharged, DON'T PANIC, DON'T RUN. SLOWLY MOVE TO THE NEAREST EXIT."

The Intercepter 1010, carrying a 1-year limited warranty, and in basic form, sells for a suggested retail price of \$399.

Additional information on the Intercepter 1010, and other tear gas alarm systems and equipment is available from Scramco, 832 West 1st St., Dept. SG, Birdsboro, PA 19508, telephone toll-free (800) 523-8186, and in Pennsylvania, (215) 582-1694.

As various states have differing laws with regard to use of tear gas in self-defense and home protection, any prospective Intercepter 1010 owner would do well to check with local authorities before the fact.

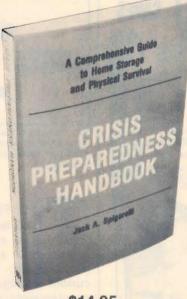
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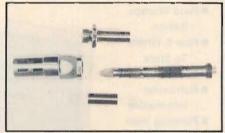


The MAX Team:

COUNTERWEIGHT COMPENSATOR

Stabilizing heft, reduced muzzle flip, add up to accuracy . . .

Staff Report



Clockwise from the left are the counterweight/compensator, locknut, threaded barrel extension, barrel and thread protector bushing.



Here the counterweight/compensator system is fitted to a West German made Walther PPK/S in .22 Long Rifle. The counterweight/compensator is on a threaded barrel, secured with a locknut. The system may be removed, and the threads may be protected by fitting a protector bushing over the threads.

WO FIREARMS companies have banded together to produce a new counterweight/compensator system for semi-automatic pistols, and to manufacture custom handguns that employ the counterweight/compensator.

Personal Protection Systems, Ltd., of Scranton, Pennsylvania, and Weaponry, Inc., of Clearwater, Florida, have joined to produce counterweight/compensators and pistols.

The counterweight/compensator system is comprised of a barrel for the pistol, remanufactured as follows: (1) The barrel is threaded and crowned. and dimensions are held identical to standard. (2) A thread protection bushing is machined to fit the threads while the weapon is being carried. (3) A counterweight/compensator bushing with positioning locknut replaces the protector bushing for target work or competition shooting. (4) The counterweight/compensator attachment threads onto the machined barrel, and locked in place with the locknut, providing added weight at the barrel end in order to improve accuracy. And (5), the compensator also includes four gas ducts which direct powder combustion gases upward in order to minimize muzzle flip, and thus reduce recovery time between each shot and the subsequent sight picture.

This counterweight/compensator system is the basis for the MAX, a custom version of the U.S.-made Walther PPK/S. In addition, the Walther receives a hard-chrome treatment on all internal parts to prevent galling, grooving of the rear slide, and relief of the forward end of the trigger guard for quick insertion of the trigger finger while the shooter is wearing gloves. Glass beading of the finish reduces glare. A three-dot sighting system with phosphorus luminous paint inserts, removal of trigger grooves, and engraving with a special MAX serial number are included. The counterweight/compensator components on the MAX also are hard chromed to resist rust and corrosion. The weapons are produced one at a time. Each is bench crafted.

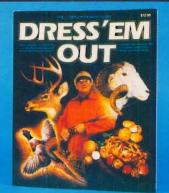
The compensator/counterweight system alone is priced at \$299, plus \$5 for shipping and handling. A valid FFL copy and a \$50 deposit must accompany each order. The MAX carries a retail price of \$1095, and a \$250 deposit is required. Each MAX is supplied in a fitted leather carrying case.

Personal Protection Systems, Ltd., 101 Pittston Ave., Dept. SG, Scranton, PA 18505, phone (717) 343-7352, will supply additional information on the compensator/counterweight system for various pistols, and on the Walther-based MAX.

More Prizes! More Chances to Win! **Enter Today! Subscribe Now!**







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CACHING

Ensure a continuing supply of essentials in remote areas . . .

By Lt. Bill Johnson, Australian Army Reserve

PHOTOS BY W.V. REVILL



When burying a cache, get the job done rapidly. Avoid hollow logs and abandoned mine shafts as they're obvious and attractive. Which of the two cachers is camouflaged? The man in the military garb may appear weird and dangerous, but the man in "civvies" seems to be a lowprofile hunter.

E HONEST. HOW long could you last on your own out there in the back country? No supermarkets. No Big Macs. Just you and a thousand grid squares. Chances are, not much more than a month.

But there is a way to stretch this out. And now's the time to get started—before the pressure comes on. It's all very well rushing about trying to put some sort of survival act together after the crunch comes, but by then it may be too late.

Assuming you've already decided which piece of terrain you'll claim as your own when the world turns septic, you're still faced with the problem of staying alive. Naturally, a large part of the answer is ensuring a continuing supply of essential stores, most of which won't otherwise be available—or reliable—in remote areas.

What you need is extra insurance: your own private stockpiles, hidden away at predetermined sites. Stores.

Supplies. Call them what you like. Most often they're referred to as "caches."

Sound simple enough? Perhaps there's more to it than one might at first think.

Know Your AO—The first job you have is getting to know the terrain you've chosen—your Area of Operations, AO. And that means really know it: hills and valleys; rivers; roads and tracks; even the weather patterns. Everything.

Sure, that will take time. Maybe even a year or two. But the advantage you'll gain over potential opponents will pay off enormously.

If you don't already know the area reasonably well, start by studying a few topo maps. Get the general lay of the land firm in your mind. Where's the highest ground? Which way do the streams flow? Tracks? Roads? Any other man-made features?

For a piece of real estate say 25 miles by 25 miles—the minimum AO recommended—this shouldn't be too difficult.

At the same time, get out there as often as you can. A 4x4 is ideal during these early days. Get to know the main roads, the minor roads, the tracks and finally, the more obscure 4WD trails. Study natural features, vegetation, soil patterns. The lot. And that includes "civilian" activity: popular campsites, fishing spots, weekenders, logging or mining operations, that sort of thing.

Gradually you'll need to become independent of your motor vehicle. Start backpacking. It's the only way to see your AO in detail—particularly the areas not serviced by roads or tracks. Of course, map and compass are a must at this stage.

Some of the features you'll need to record are obvious: campsites, waterpoints, natural hides, terrain varieties,

"civilian" movements, etc. But jot down the coordinates of the not-soobvious also: possible observation positions (OP), dead ground, obstacles, or possible helicopter landing zones (LZ).

After a few weekends on the ground, you'll really start to feel at home, so eventually you should carefully dispose of any notes you've made. Start using and developing your memory and instincts. Maybe even travel without relying on map or compass. But take them along just in case!

Here are two more invaluable aids: (1) Make a detailed, fairly accurate 3-D model of your AO (in sand or mud). Ideally it should be about 6 feet square and show high country, rivers, tracks, etc., all in relative scale. Models like this are the best way known to imprint the AO on your brain. (2) Try to arrange an aerial recon over your AO, by chopper if possible. You'll see all sorts of things you missed on the ground. But for maximum value, don't do this until you know the area well so you can quickly relate to landmarks as you pass overhead.

Finally, one thing to keep in mind right from day one: security. It's most likely that somewhere out there you'll come across "civilians." So what? Sure, it's best to avoid them, but if you can't, just act normal. Dress, talk and act like the person you're supposed to be-hunter, prospector, naturalist, whatever. But don't get all cammied up and start skulking about and acting weird. Keep it low-key and casual. People are quick to remember the strange or unusual. Besides, you can often pick their brains for local knowledge, like where they spend their time, or other handy info.

It's your AO. Get to know it. Intimately. It's far better to know 500 square miles well, than have a passing acquaintance with 1,000 square miles. Become part of your territory, then become reasonably familiar with a 10-mile "buffer zone" all around—just as a bonus.

Cache Sites—By now the purpose of all this homework on your AO should be obvious. If you want to establish a cache of vital supplies, you'll need to be very careful where you plant it. You don't want to come back 6 months later to find a bunch of Boy Scouts camped on top of it.

But by this time you'll know that piece of country better than any man alive, so selection of cache sites should not be a problem. And at the outset, you'll need at least six: three primary sites and three alternatives.

It's the old hunter's principle of hedging bets: if one cache is good insurance, three must be better. And if each cache will sustain you for, say, 30 days or more, that's at least three months you can continue to operate.

First up, before you determine the exact location of your cache sites, you will need to look for reference points. These should be—to you—easily recognizable natural features in remote corners of your AO, and well away from any base camp or retreat you may have established. Huge trees or rocks, creek junctions: anything that

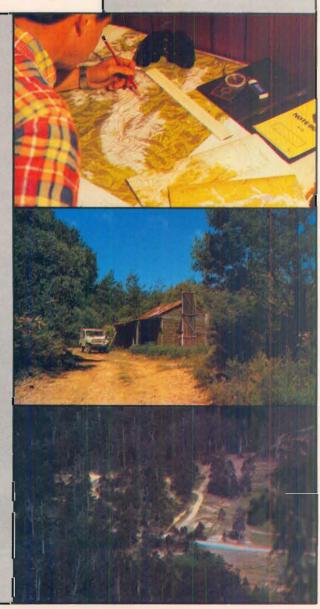


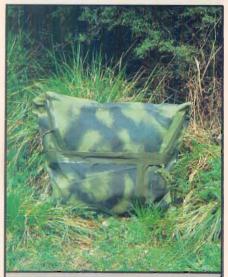
An ex-military backpack to hold 30 days worth of survival supplies is ideal for caching. Supplemented by AO's resources, 30-day consumption period can be doubled.

Study relevant topos in order to know your area of operations (AO).

Keep away from popular attractions: abandoned dwellings, campsites, ruins, etc. Memorize their location. If possible, use a 4x4 to conduct initial explorations.

The high ground offers observation posts (OPs) from which you can second a possibile adversary—and vice versa. Know where OPs are located.





Here's the cache, wrapped, sealed and ready for planting. Firmly embedded twigs can provide indication of tampering.

will still be there a year or two later will be suitable. And if you're working in snow country, choose reference points that you can still find when there's 3 feet of snow all over! Or when it's dark.

Remember: all you have so far is a reference point (not a cache site). If you really have to, note the coordinates. But *don't* mark your map. Eventually you have to memorize these locations without the need for map or compass.

Next step: from the reference point, the cache site is plotted using your own standard formula. For example: 30 paces due north, then 50 paces due east. Use two or three, unchangeable legs to pinpoint the site where your cache will be planted. Then, when you're standing at that spot, decide if the position is suitable. If it's

not, find another reference point and start over. Do not vary your siting formula.

In deciding on the suitability of a site, you'll need to consider things such as drainage, natural cover, soil type, if burying is necessary, and the presence of any nearby "attractions," such as campsites, hollow logs or mine shafts, that could eventually lead to compromise of the cache.

But do this assessment and make your decision quickly. Don't spend too much time crashing about in an area that may soon be hiding 30 days of your life! If the site looks good, and there's no problem finding the reference point again later, get out of the

So for each cache you're planning, you'll need to go through the same procedure. This usually means at least six times before you actually plant your caches. That way you can plant your first, followed a month or two later by the second, then later again, number three, and so on. By the time the third is in position, the first will most likely have been out four or five months. This—depending on the contents—might be time to retrieve it and check it out for deterioration.

After the first cache has been checked/replenished/repaired, out it goes again—to the first of your alternative sites. This is important: no site should ever be used more than once.

That's the drill. A cache goes out until the contents are at the limit of their storage life. It's then retrieved for examination, and finally replanted at a new site for another stretch. It's a continuous process: site selection, planting, retrieval, checking and replanting.

Movement/Security—The need for security during all phases of a cache program cannot be overstated. But during the early stages, when there's no operational pressure, security is often overlooked. And it's your own movement through the AO that presents the chief problem.

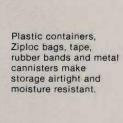
Always assume that you're being observed. Stay within that narrow interface between caution and carefree so you can get about without raising suspicions or unnecessary attention.

Obviously the two most critical stages are planting the cache, and the pickup some months later.

When planting, move beyond and around the site in a broad "clearing



Cans, knives, metal objects, clips, etc., should receive a light coating of oil or rust-proofing compound.





Don't forget solid fuel, rope, water purifiers, dressings, vitamins, socks, first-aid and survival kits, ammo, toilet paper, underwear, space blankets, string, fishing gear, can opener, toothbrush, soap, matches, candle, foot powder, folding stove and gun oil. You'll need 'em.

patrol" action before making the drop. Then, after circling back to the site, make the plant and extract yourself as rapidly, but cautiously, as possible.

Similarly, when moving in for a pickup, clear the area first in a wide "fish hook" sweep. Avoid walking directly toward the site. If there's high ground overlooking, clear that first. (It might even make a handy OP to watch for "intruders" before moving in.) After pickup, move out quickly by the shortest possible route.

If additional security is needed during the final stages of planting or pickup, a camo jacket can be quickly slipped on over your usual civilian

clothing.

An added precaution: develop some small, definite trigger to clearly indicate whether the cache has been tampered with. For example, in the type of cache to be described farther along in this article, a small stick, firmly lodged under the outer cover, gives immediate indication of compromise. If that's the case, grab it and run! You've gone that far, you might as well take the goodies.

Of course, if the cache is gone, get out fast. Don't start scratching about for it. That just makes it obvious who

the owner is.

In terrain where there's insufficient undergrowth, burying the cache may be the only alternative. This means more time at the site, with increased chance of compromise. You might have to plant at night. Whatever method you choose to hide the cache, plan in advance—even rehearse—to minimize the time at site.

In all your movements, think security: avoid patterns or predictability in your routine; make stops at irregular times; keep off tracks and roads; don't take the "easy path" all the time. Above all, leave no sign of your passing.

Preservation—Well, just what sort of things are you going to store in your cache? The secret is remembering the primary aim of any cache program: to replenish supplies essential to sustain life and thus allow continuation of operations.

This raises another question: what is "essential to sustain life?" The three basics: water, foncl and shelter. What your AO can't provide in sufficient quantity, your cache must.

Obviously, beyond the essentials there are a few "desirables" to con-

sider. These are items which provide warmth, self-preservation and protection.

Let's look at some examples:

Water: Water (difficult to store), water purifiers.

Food: Basic meals (freeze-dried, dehydrated or canned); meal supplements (soup, rice, macaroni, flour, salt, sugar, coffee, tea, biscuits, fruit, vegetables); fishing line and hooks.

Shelter: Basic shelter (e.g., poncho or space blanket); twine/rope.

Warmth: Matches, fire starters, solid fuel, candles.

Self-Preservation: Hygiene kit (soap, toothbrush, toilet paper); first aid kit (pocket size); survival kit (pocket size); multi-vitamins; spare socks and underwear (one set).

facturers' claims. It's not uncommon to find products still perfectly edible after twice the "recommended" storage period—or putrid after less than half! The only way to find out is cook and eat it yourself. Discard anything that smells, tastes or even looks suspect. You may err, but it's better to come down with a dose of "bushman's three-step" in the relative safety of your home, rather than when you're alone in the back blocks with a rabid bunch of unfriendlies close by.

Cans and other metal components should be given a light coating of oil, with all other items—waterproof or not—stored in plastic bags. Other storage methods to try are screw-top cans, garbage bags, jars and plastic containers of all types. Build up a collec-

Obviously, the two most critical stages are planting the cache, and the pickup . . .

Protection: Ammunition, knife, gun oil.

Whether you add any extras—such as clothing or footwear—will depend on your own operational circumstances. Of course, how bulky your cache is depends on how long you want it to extend your "operations" after pickup. One month is ideal. In fact, all one person needs for 30 days (or more) can be packed into the average backpack. And that's how it should be planted: in the pack.

By using a properly adjusted, protectively treated backpack (Army surplus is ideal), pickups will take less than a minute or two, excepting buried caches. By going in carrying basic gear only, it's simply a matter of grabbing the cache, removing any outer protection, followed by speedy extraction. And if some Boy Scout stumbles across it, more than likely he'll think it's been left (or lost) by some backpacker off exploring or rock climbing.

As for the food, freeze-dried stores longer and packs easier than most other types. Depending on the brand, you can expect at least 6 to 12 months life, usually more. A bit of time in your supermarket or outdoor supply center will give you plenty to consider in regard to different long-life foods.

But the trick is in testing items for yourself. Trial and error is your best guide to storage life, not the manution of them for testing during the early days of your program. Airtight seals can be achieved by taping, spray painting, adhesives or even the lowly rubber band. All this can be tested at home, long before your first cache goes out.

After it's been out a few months, check the cache and contents for deterioration. Repair, replace, repaint, replenish—whatever it needs. Get it ready, ASAP, to go out again. If things suddenly turn nasty, you don't want to be caught with only two caches in the field.

One final consideration: if your operations look as though they will extend beyond 12 months, plan for a one-off, long-life cache of non-perishables such as boots, clothing, hardware and other key items. Try to keep it to backpackable size for easy extraction when the time comes.

To restate the rule: if you can live and operate without it, leave it out.

There you have it. You won't get it together overnight. It needs planning research, testing and practice—and lots of slogging in the field. This all takes time, but how much do you have?

Who knows? One thing's sure: you can increase your chances out there if you establish—in advance—suitable caches of essential stores. After all, it's your life insurance.

Rimfire Ruger:

). 77/22

This bolt-action beauty combines quality and simplicity . . .

Staff Report

TURM, RUGER & Company, Inc., has announced production of a new bolt-action smallgame/target rifle in .22 Long Rifle. The rifle, designated 77/22, is an extension of the Ruger M-77 boltaction design.

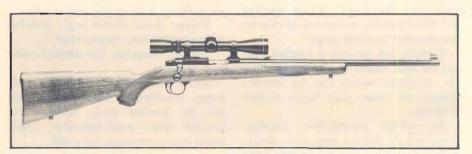
The 77/22's receiver encloses a bolt that incorporates two large locking lugs, and accommodates a 10-shot rotary magazine that also sees service in Ruger's popular 10/22 semi-auto .22 rifle.

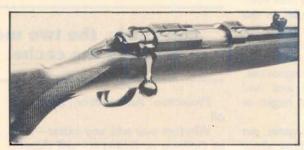
The bolt assembly is built to military standards, but is designed to accommodate the .22 rimfire cartridge. The forward part of the bolt is non-rotating, and the locking lugs are positioned midway between the bolt face and the turning handle. The rear part of the bolt rotates and cams, as does the Ruger M-77's bolt, and is connected to the non-rotating forward part of the bolt by a joint designed for simplicity and strength. The locking lugs at the forward portion of the rotating component of the bolt engage corresponding channels in the receiver walls. This system provides positive locking of the bolt by precision machined surfaces. A solid bolt lockup is assured.

The 77/22 features a unique 3position safety. With the safety in midposition, "Unload," the trigger is locked, but the bolt can be operated manually and the chamber emptied. With the safety in the rearmost, "Safe," position, a dead bolt is cammed forward, locking the bolt handle down. On "Safe," the action is locked closed and the bolt handle cannot be rotated to open the action. Unless the rifle is cocked, the safety cannot be moved from its forward, "Fire," position to "Safe."

A bolt stop flush with the left of the receiver can be depressed to slide the bolt from the receiver.

A non-adjustable trigger mechanism produces a "medium" pull. All trigger group components are hardened for longevity. The trigger spring is a single





ABOVE-Ruger's new boltaction .22 incorporates integral scope mounts for the Ruger scope-mounting system, with 1-inch rings.

LEFT-Right-hand view shows blued parts, and matte finish on the receiver top. The rear rialf of the bolt turns and locks.



LEFT-Left-hand view shows folding leaf rear sight, bolt release and safety lever.

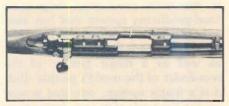
RUGER 77/22: TECH SPECS

Caliber	.22 Long Rifle
Feed, rounds	turnbolt with two locking lugs rotary magazine, 10
Lengths:	nagazino, 10
Barrel, inches	20
Overall, inches	39.25
Weight, without scope, magazine,	
pounds	5.81
Rifling:	SALES OF THE PARTY
Twist, turns/inches	1/10
Bore, inches	0.217
Groove diameter, inches	0.222
Groove width, inches	0.070
Sights:	
Front	gold bead
Aear	adjustable folding leaf
Safety	3-position, positive lockup
Dring suggested retail	\$275

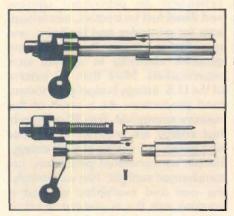
coil that provides for both sear recovery and trigger return. Lock time, according to Ruger, is approximately 2.7 milliseconds, which is comparable to sophisticated competition rifles.

The 77/22's barrel and receiver are joined with two longitudinal screws. The screws extend through a heavy V-block barrel retainer and pull the barrel tightly into the receiver.

The majority of the 77/22's com-



ABOVE—Top view shows the unique 3-position safety and scope bases.



ABOVE—The forward part of the bolt incorporates two parallel locking lugs which engage matching channels in the receiver to ensure a strong positive lockup. Disassembly of the bolt for cleaning and/or maintenance is a simple operation.

ponents are heat treated chrome-moly steel. Springs are music wire coils throughout. All exposed parts, with the exception of portions of the bolt, are blued. A matte, non-glare finish is applied to the top of the receiver. The stock is American walnut, hand checkered at the grip and fore-end. The pistol grip and butt are protected by nylon caps. The receiver is machined with integral scope bases that accept Ruger mounting rings. A gold bead front sight, and an adjustable folding leaf rear sight are provided as a back-up for a scope.

Ruger engineers report that the 77/22 action may be employed in the future as the basis for a specialized position rifle for formal competition shooting. Moreover, according to Ruger spokesmen, a .22 Magnum version of the rifle will become available this year.

Thommen Pocket
Altimeter/Barometer

This Swiss-made precision altimeter/barometer has been carried on every major Himalayan expedition and rivals the sensitivity and accuracy of the aneroid altimeters in most aircraft. Respected world-wide for their dependability, accuracy, ease of operation, compactness and light weight, Thommen altimeters are used extensively by serious backpackers, geologists, surveyors, pilots and skydivers.

Actual Size Model 2000-16

Navigational Tool

Outdoors, a precision altimeter is a valuable navigational tool especially at night or in poor visibility conditions. With a topographic (contour) map, you can locate a spring, trail or campsite by ascending or descending to the proper altitude and walking the contour. Even under good conditions in wild country, a Thommen altimeter can sort out map ambiguities.

Weather Forecaster

As a barometer, the Thommen is an excellent base camp weather instrument. By setting it to your present altitude, you can measure changes in barometric pressure with laboratory accuracy.

Rugged Dependability

The Thommen Pocket Altimeter/Barometer is small (2.5" x 2.7" x .8") and lightweight (3.2 oz.) yet rugged enough to withstand the scrapes and shocks of outdoor use. The 19 jewel, temperature compensated precision movement is encased in an extra tough Delrin case which provides direct access to the altitude set ring while shielding it from accidental misadjustment.

Technical Specifications

Altitude Range: 15,000 feet, one revolution every 3,000 feet.

Accuracy: + or - 30 feet, 20 foot graduated scale.

Barometric Scale: 22.5" - 31.0" Hg.

Temperature Compensated: -4 degrees to +105 degrees F.

The Thommen Model 2000-16 Altimeter/Barometer includes a desk stand, dashboard mounting plate, neck lanyard and illustrated instruction booklet. Full money-back quarantee.



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	Leather carrying case with belt loop at \$16.50	each ppd.
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An Overview, Part I:

INTENSIVE GARDENING

The most secure method to assure a continuing food supply is to grow your own, starting now . . . By Henry Lee

This article, "An Overview, Part I," is the first in a three-part series on "Intensive Gardening." Part II, "Double-Dug Beds," will appear in the July issue of Survival Guide, to be on newsstands nationwide about June 1. The final article, Part III, "Low-Tech Pest Control," will be published in the August edition of this magazine, to be on sale July 1.

The author, Henry Lee, resides in a rural area, and concentrates on the self-sufficient lifestyle. Here are his words on his success and the benefits of intensive gardening:

"Last year, in a garden of about 2,000 square feet, my wife and I grew nearly all the fresh produce for two moderate-to-heavy vegetable eaters, canned, dried and froze sufficient vegetables and herbs to carry us through most of the winter, made about \$200 selling produce, and still have a variety of over-wintering vegetables in the garden. And this is less than half of what I expect to produce this year, now that I've gained some experience."

Serious survivalists would do well to read and heed. — The Editors

OIN THE revolution. No, not in Central America or the Mideast, though the foliage is as dense as a jungle, the prize more valuable than oil. This revolution is in your backyard. Gardening is undergoing a radical change, a food production revolution no survivalist can afford to ignore.

This "new" method goes by the general name of intensive gardening, though variations are known as the Biodynamic/French Intensive Method, the Chinese Method, and the Square Foot Gardening Method, among others. All result in increased yields, and more efficient use of water and fertilizer.

This article presents an overview of intensive gardening techniques and benefits, explains why survivalists should learn these skills, and specifies how much land is required for survival.

If "The Day After" occurs, all humans will be confronted by possible starvation. Stored foods may carry you through a year, perhaps three, but the stockpile will run out eventually. Hunting and gathering are possibilities, but deer, rabbit and fish populations are limited, and competition from other hunters will be fierce—so

desperate that the hunter may become the hunted. The most secure method to assure a continuing food supply is to grow your own.

The Need—Obviously, there will be a need to return to the land in a post-cataclysmic world. Less obvious is the need to grow your own food in today's society. American agriculture is the most productive, large-scale food-producing system that has ever existed. About 4 percent of the U.S. population feeds the other 96 percent, as well as a major portion of the remainder of the world's people. But, it is a fragile system, one that is now sowing the seeds of its own destruction.

Modern agriculture is totally dependent on petroleum: gasoline and diesel fuel for tractors, petrochemicals for pesticides and fertilizers, and more fuel to transport the produce and generate electricity to operate local supermarkets. More than 20 percent of the U.S. energy budget goes toward food production. As a result of this massive energy use, 6 to 20 calories of fuel energy are required to produce and transport 1 calorie of food energy. People eat converted petroleum, not transformed sunlight. Not surprisingly, the cost and availability of food is coupled with the availability of oil. A 1980 study by the U.S. Department of Energy indicates that vegetable and fruit prices will jump 55 percent as a result of a 10 percent decline in oil supply.

Water-Oil isn't the only, or even the most likely, resource to limit America's continued agricultural bonanza. About 12 percent of the total cropland is irrigated, much of it prime land, with agriculture accounting for more than 80 percent of the water consumed in the U.S. Many experts believe the combination of contaminating U.S. waters with salts and pollutants, and over-exploitation of ground water will lead to a severe crisis before the turn of the century. Add to this the effects of an increasingly erratic weather system, and the threat becomes clear. Those who scoff should read some California and Oregon newspaper articles in regard to diverting water from the Columbia River or other massive water projects.

Threats—These aren't the only threats. Problems include (1) erosion

YIELD/LAND AREA: What's Needed to Produce a Complete Vegetarian Diet*

YIELD, TIMES U.S. AVERAGE	GROWING PERIOD, MONTHS	DAILY CALCIUM INTAKE, MG.	AREA PER PERSON, SQUARE FEET	PEOPLE FED PER HALF-ACRE	
2	4	800	5,600	4	
2	8	800	2,800	8	
4	4	800	2,800	8	
4	8	800	1,400	16	
4**	4	400	1,400	16	
4**	8	400	700	31	

^{*}Modified from Beginning to Mini-Farm, by Ecology Action of the Midpeninsula.
**Special crops.

Yield from intensive gardening project is amazing. Successional planting insures sustained food supply. Beds in foreground contain second or third crops. Middle beds are being prepared for a new crop. Long season vegetables are maturing in beds in the background.



of topsoil, (2) urbanization of prime farmland, (3) overuse of chemical pesticides, (4) a narrowing of the genetic base of crops so they become increasingly susceptible to diseases, and (5) an economic system that drives all but the agricultural giants bankrupt. These are just the farmers' problems. They do not include possible disruptions to transport and food merchandising. Something as commonplace as a truckers' strike could cut off America's food supply.

Starvation—American agriculture is amazing, but there are signs that all is not well. Many experts warn of decreased and less-stable yields. When these projections become reality, expect to pay a greater proportion of your income for food, and anticipate heightened international tensions as the Third World starves without U.S. food exports.

Only basic changes in our agricultural system will solve these problems.

However, survivalists can minimize the impact of rising food costs and scarcities by growing all or a major portion of their food. This is where intensive gardening plays a critical role. The potential benefits of intensive gardening for the survivalist are impressive.

John Jeavons, a pioneer in the movement, claims that compared with conventional gardening methods, intensive gardening uses only 1/2 to 1/16th the amount of water, 1/4th to 1/62nd the amount of fertilizer, 1/100th of the energy, and yields up to 10 times as much as conventional gardening.

As fantastic as these figures appear, they are possible, but only by the most skilled, dedicated gardeners. The average-to-good gardener should at least double present yields while using water and fertilizer more efficiently.

No Tricks—Intensive gardening isn't the result of some trick or gadget. Rather it is the systematic application of a variety of techniques, including raised beds, loosening the topsoil and subsoil, planting in solid blocks, successional planting, use of starts, and an integrated pest-management system. While application of any of these techniques enhances your garden, full benefits come only when they are all used.

The key to intensive gardening is use of permanent raised beds, usually 3 to 5 feet wide, 20 to 25 feet long, and with soil raised 2 to 12 inches above the paths. Soil in the beds is loosened initially to a depth of 24 inches by a process referred to as double-digging, compared with the 4 to 8 inches obtained by conventional tilling methods. Double-dug beds will be explained in detail in Part II of this article. By never walking on the beds, and by occasional spading, the soil remains loose and uncompacted.

The friable soil in double-dug beds creates optimal conditions for root development, leading to strong, rapidly growing plants. In the uncompacted soil, plants form deeper root systems which draw upon water and nutrients stored in the subsoil. Access to the resources in the subsoil allows closer spacing of plants, reduces the amount of watering necessary, and helps carry plants through droughts.

Raised beds use garden space much more efficiently than conventional planting rows separated by paths. In typical garden rows, only 32 percent of the fanci area is actually used by the crops, while 68 percent is lost to paths. In a bed, plants are sown in solid blocks so that at maturity they are just touching all their neighbors. The only paths are between solidly planted beds, not between each row of plants, and crops occupy at least 60 percent of the



Planting spinach in solid blocks, instead of rows, saves space, but requires fertile soil.



Beds are raised from 2 to 12 inches above paths. Loose friable soil drains well, allows deep root penetration.

garden space. Just by changing the spacing, you can approximately double your yield. At the same time, you are using water, fertilizer and compost more efficiently by cutting in half the amount wasted on non-productive paths.

Spacing—Within a bed, plants are separated from their neighbors in all directions by the "within-row" seed spacing given on all seed packets. The close spacing of the plants forms a canopy of greenery over the bed as the crops mature, especially leafy ones such as spinach or lettuce. This "living mulch" reduces evaporation from the soil, and aids water conservation. Shading by the canopy also retards weed growth. If the bed is kept well weeded while the plants are small, most crops will out-compete weeds as they grow larger. Harvesting a bed of spinach left unattended after an initial weeding, for example, produces only a few spindly weeds. The spinach does the work of herbicides or hand weeder with no chemicals, no expenditure of energy.

Hand Labor - Double-dug beds are made and maintained by hand labor. Although initial construction of a double-dug bed is hard work, maintenance in future years is relatively easy because the soil remains uncompacted. With just a few simple hand tools, and a few hours of physical

INTENSIVE GARDENING



Dense stand of fava beans forms a "living mulch," shades out weeds and conserves water.

labor, a survivalist/gardener can grow all or most of his food without use of any petroleum fuel. Converting a garden into double-dug beds is a major step toward food self-sufficiency and oil independence.

Maximize—Though raised beds are the cornerstone of intensive gardening, other techniques are needed to maximize yields. Intensive gardeners make full use of their garden soil by planting a new crop as soon as one is harvested, a technique referred to as successional planting. With careful planning, it is possible to grow two, sometimes three, vegetable crops from the same plot in one season. The main trick to successional planting is discovery of the combinations which work best in your particular climate. Be forewarned that a crop planted early or late in the season will take significantly longer to mature than the date given on the seed package. The second trick is to actually sow successional crops. A mistake is to leave portions of your beds barren for a month or more, reducing total yield at least 25 percent. It is better to develop a plan that calls for replanting the same day as the first crop is harvested.

Starts—Juvenile plants grown under protected conditions are called "starts." These, transplanted into the garden, can increase yields in several ways. Because the germination period and initial growth has taken place already, starts require less time in the garden to mature, as compared with crops sown from seed. The reduced time to maturity may allow an additional crop or even two of rapid growing crops or give longer-season vegetables enough of a headstart to mature in a short growing season. Fewer seeds are wasted with starts than with



Early season garden with raised beds is being made and sown. Next season, beds will be ready for planting after a quick spading.

direct seeding. This saving is of little consequence today, but when seeds become scarce, you'll have to treat them like bullets—making each one count. Finally, transplanting a partially grown plant reduces the length of time that a crop is exposed to various pests that inhabit your garden.

Raising your own starts is not necessary for intensive gardening, though it is a skill that you'll wish to master as you become more proficient. A greenhouse isn't necessary. Starts can be grown in a warm closet under a few growlights. A good introduction to raising starts is *The Seed-Starter's Handbook*, by Nancy Bubel, Rodale Press, Emmaus, Pennsylvania.

Fertility—Intensive gardening works the soil hard. You must work to maintain or increase both fertility and soil structure. Slow-acting organic fertilizers, such as blood or bone meal, are better for intensive gardening than the faster-acting chemical fertilizers. Because many organic fertilizers are farm by-products, their availability is not as tightly coupled to foreign oil flow as are petroleum-based fertilizers. High humus levels are critical for proper soil structure, especially in problem soils, such as clays. Addition of compost and manures, or tilling-in cover crops such as clover, increases the nutrients, and promotes beneficial microorganisms, while helping to control certain disease organisms. The amounts of various fertilizers and composts to use will be reviewed in Part II.

Problems—As in any system, intensive gardening has a few problems. Without doubt, the greatest drawback is the labor involved in double-digging the beds initially. Six to 15 hours of physical labor are required

to make each bed. This may not seem excessive until you try to make 10 to 50 beds. Over four months, this author prepared 19 beds, his most notable garden accomplishment of the year. For your first year, plan on 5 to 10 beds, a realistic goal. If you really want to convert your entire garden to double-dug beds, realize that you are undertaking a major project. Plan accordingly.

Another problem is that uncompacted soil drains rapidly, so the upper 1/2 inch to 2 inches of soil tends to dry out, especially if the soil is sandy. Seedlings, with shallow root systems, may suffer from a lack of water, even though there is ample water for larger, deeper-rooted plants. After planting starts or sowing seeds, keep watch on the surface layer and water lightly if it feels dry. Increasing organic content of the soil will increase its water-holding capacity, and lessen need for frequent waterings. In hot, windy climates, an organic mulch, such as straw, may be useful, even though mulches are not used normally in intensive gardening.

Diet-Use of intensive techniques reduce to a minimum the area of land needed to supply a complete diet. However, there is no simple answer as to just how much land is required per person. The amount varies with the soil, climate and crops, as well as the diet and skill of the gardener(s). According to Ecology Action of the Midpeninsula, 2225 El Carnino Real, Dept. SG, Palo Alto, CA 94306, if you were to equal the average U.S. yields, you would require about half an acre per person for a typical diet which includes meat, and about a quarter-acre for a vegetarian diet of about 2,500 calories per day. It is unlikely that you will be able to surpass professional farmers, so at least this much land is needed if you plan to use conventional row/path gardening.

The accompanying table shows the amount of intensive garden area needed to grow a complete vegetarian diet that supplies 37 to 65 grams of protein and 2,500 calories per day. The values are for both short and long growing seasons, and for yields two and four times the U.S. average. The areas are for actual growing surface, and do not include between-beds paths which would increase the area required by 20 to 40 percent, if 100-square foot beds are used. How-

ever, field crops such as wheat or soybeans, which would constitute a major portion of the diet, can be grown in large double-dug production areas without paths. One person, working full-time by hand, can maintain a halfacre of intensive garden. Therefore, the number of people fed per half-acre is the maximum number that a single gardener could support. Raising fowl or small meat animals such as rabbits would increase the required area by at least two to four times.

Yield—After conditioning the soil, intensive gardening should produce at least twice the average farmer's yield. Thus, depending on the length of the growing season, a growing area of 2,800 to 5,600 square feet would supply a complete diet. This level of production requires neither great skill nor a greenhouse, though use of a greenhouse or other season extenders would reduce the land area required in cooler climates. Depending on the initial state of the soil and the level of your gardening skills, you can obtain this level of production anywhere from the first year to four years after starting your intensive gardening program.

Achieving a yield four times the national average seems feasible, though good soil, well-developed skills, and use of a greenhouse or cold-frame would be required. This type of yield from a growing area of 1,400 to 2,800 square feet could support one person.

Any further reduction in land area is tricky. At 700 to 1,400 square feet, the daily intake of calcium is only 400mg, which is below the U.S. Recommended Daily Allowance, though it does meet World Health Organization standard. With such a small area, your diet is limited, as you must concentrate on crops which produce the most protein and useable calcium per square foot, collards, say.

A garden of this small size does not provide much—or any—leeway for a bad season. Though it is possible, do not plan to survive with such a narrow margin of safety.

Intensive gardening is the only proper course when your land area is limited. Even if you have several acres, converting to growing beds will conserve water, fertilizer, fuel and time, while making land available for pasture or orchards. For future food, start now.

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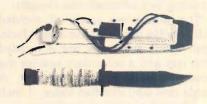


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With Cannister:

GAS MASK

This Israeli-issue device blocks conventional military agents . . . Staff Report

LEFT—The Israeli mask is not effective against Nuclear, Biological or Chemical (NBC) agents, but is designed to protect the wearer against lear gas and mustard gas.

SRAELI civilian gas masks are now available in the U.S. survivalist marketplace. The masks are new manufacture, but because of a recent design change, these masks are not now issued to Israeli citizens.

The cannister supplied with the mask will block conventional military gases—tear gas, mustard gas and lewisite—but is not effective against more modern NBC (Nuclear, Biological, Chemical) warfare agents. Neither is the mask effective in a fire situation where there is a high concentration of carbon monoxide gas, and a corresponding lack of breathable oxygen.

The masks are made of molded soft, flexible neoprene for a tight facial seal. Inside the mask are a molded chin cup and a secondary seal for the nose and chin area of the face. A single one-way exit flap-valve, 1 inch in diameter, accommodates outbreathing. Two one-way plastic/neoprene circular flap valves in the nosepiece seal permit intake of air through the nostrils, but prevent nasal exhalation vapor from fogging the eyepiece lenses. Additionally, these valves help to maintain the mask-to-face seal because they permit a small amount of

air to be drawn from inside the mask into the nose/mouth cavity, thereby maintaining a slight negative pressure inside the mask.

The eyepieces, circular clear lenses, are secured in metal ring seals with screw tensioning clamps inside the mask.

Each sealed filter cannister must be physically activated before attaching it to the mask's female-threaded fitting. A circular plastic friction seal is factoryfitted to the intake side of the cannister, and is taped in place. The tape must be broken in order to remove the friction seal. The male-threaded rear fitting of the cannister is protected by a screw cap with an integral neoprene seal. The cap is kept from turning by a cotton lanyard, with metal seal, that must be broken before the cap can be turned. With seals in place, the cannister is fresh. When the cannister has been unsealed and used, the protective covers may be replaced to protect the remaining filter capability for additional wearings of the mask.

To use the mask, first remove the cannister seals, then remove the white plastic protective cover from the threaded nosepiece of the mask, and

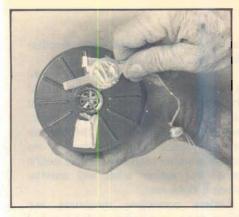
screw the cannister's male threads into the mask's female fitting.

The mask is suitable for wear by adults and teenagers. The method for achieving a proper mask-to-face fit is to first loosen the mask's four head-straps completely, then to place the mask over the face, and the straps over the head, drawing each pair of straps up evenly, centering the head-piece on the skull, and assuring a tight, gasproof seal. Quick-release plastic buckles permit rapid removal of the mask.

Care must be taken when fitting the mask else the straps and buckles will sieze and pull strands of hair quite painfully.

The masks are available from Survival Inc. (SI), 2322 Artesia Blvd., Dept. SG, Redondo Beach, CA 90278, phone (213) 318-2575. The price for a single mask, with cannister and carry strap, is \$17.50, postpaid. Two masks with cannisters go for \$30, postpaid. Additional cannisters are priced at \$6 each.

SI will supply additional information on the Israeli masks, and will provide a catalog of various other survival-related supplies for \$2.



To activate the cannister, remove the front seal, unscrew the rear seal, and remove the mask's plastic plug.





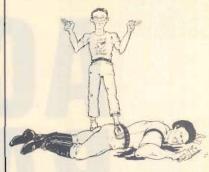
BELOW-To make the mask functional, thread the cannister into the mask fitting.





Tighten head straps evenly until the mask fits snugly on the head.

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AGID RAIN



This Sierra Nevada take in California is extremely sensitive to acid rain damage. Close attention is being paid to readings taken at this site. (Photo by Kathy Tonnessen)

If the world doesn't survive, you won't . . .

By Christine Miller

PHOTOS COURTESY OF THE CALIFORNIA AIR RESOURCES BOARD

AIN HAS always been a part of the human lifestyle. It nourishes crops, renews the earth, and purifies the air. It has long been considered a form of relief for the thirsty, waiting world. It has been source and resource, subject of intermittent, but cyclical, amazement and pleasure. In times past, rain was even worshipped. But now, in many places throughout the modern world, rainfall is no longer welcomed with like enthusiasm.

Why?

Rain that now falls around the world to the waiting soil, the people, the livestock, and into lakes and streams is action. It's so acid that it defaces stone statues, turns lakes previously teeming with fish into pools of clear, sterile unirchabitable liquid, and leaves great stands of forest limp and brown, or so scientists say. The precipitation that now falls from the sky sometimes is as acid as tromato juice, vinegar or lemon juice. Chilldren would chant: "Rain,

rain, go away. Come again another day." But it's not that easy.

Man is dependent upon rain. There is no one so self-reliant that he isn't at the mercy of the quality of the rain that falls. It is a natural part of the life cycle, as are sunshine, wind and the very air of the planet. The question is no longer whether man can survive until it rains, but rather what will survive when it does rain.

Unless corrective measures are taken soon, survivalists will be called upon to prevail in a future world suffering from chemical shock, with fewer animals for food, poisoned plants to forage, and acid water to drink.

Manmade pollution is the source of substantial acidity in rainfall.

The Problem—The California Air Resources Board states Acid Rain has a pH value that measures less than 5.6. The acidity of water is measured on the hydrogen ion pH scale, which ranges from 0, most acidic, to 14, most alkaline. Each number on the scale represents a tenfold increase or decrease in acidity. For example, a pH reading of 5 is 100 times more acidic than a pH of 7. A value of 7 is neutral and represents pure water.

However, there is no such thing as "pure rain." Rain, snow, for and other forms of precipitation always contain other elements. The acidity of water, for example, increases when it is exposed to air because the carbon dioxide (CO2) in the atmosphere dissolves to form a weak acid with a pH value of about 5.6. This explains why 5.6 is taken as the normal acidity figure for rain.

Another factor that affects the pH level of "normal" precipitation at any specific location is the amount of particles and gases contributed from natural sources. Particles in wind-blown dust make rainfall more alkaline, while gases from swamps and volcances make precipitation more acidic. Because of this, the average pH value of unpolluted precipitation varies with the location or the season. However, these changes in acidity or alkalinity are small in comparison with

those produced by manmade pollution which, the California Air Resources Board reports, is the source of substantial acidity in rainfall.

In manmade pollution, chemicals that contribute to the acidity of the atmosphere are sulfuric and nitric acids created by emissions of these substances from industrial facilities, power plants and motor vehicles. This is a direct result of burning fossil fuels and ore smelting. In 1976, the estimated total nationwide sulfur and nitrogen oxide emissions equaled 50 × 106 metric tons, a figure tallied by the U.S. Environmental Protection Agency. Those emissions are roughly half sulfur and half nitrogen. Thirty-six years ago, in 1940, the emission rate was half that total figure, with nitrogen oxide occupying a very small percentage of the total. Scientists believe that this increase has caused the acids to fall to earth in rain, snow, hail, fog and mist, and as dry particles and gases. They use the term "acid deposition" to describe all these phenomena, and the term "acid precipitation" for deposits that are not dry.

Effects—In lakes and streams, the results of acidic deposition may be catastrophic. There is a gradual rise in acidity which begins to take effect as the natural level of the alkalinity of the lake is exhausted. Some lakes are more sensitive, or fragile, than others because of their basic composition. They possess no buffering capacity to resist acidification because of their granite base, and absence of sufficient

calcium and other chemicals to neutralize the acidity.

What happens follows a pattern. Acidic water begins to affect microorganisms at the bottom of the food chain, disrupts feeding possibilities and can actually affect the development of hatching fish, as shown in recent experiments. An extremely hazardous side effect of acid water is that it may release metals such as manganese and aluminum into the aquatic environment. Toxic metals can damage adult fish gills, causing suffocation. Efforts to "lime" a lake in order to restore needed alkalinity have been found to be both expensive and only temporarily successful.



Acidity in melting snow may be more of a problem than acid rain. (Photo by Kathy

The final determination of how many lakes have become affected by acid deposition has not yet been made. At last count, 141 lakes have

been declared "dead" within a 50-mile radius of the Killarneys in Ontario, Canada, and 212 lakes in the Adirondacks have likewise been categorized, with many more under suspicion. In Sweden, the number of fishless lakes in 1980 was quoted as 15,000. Estimates are that 48,000 lakes across north central Ontario are suffering the impact of acid deposition, and the Wisconsin/Minnesota/Michigan "Land of Lakes" area has reported scores of 4.2 to 5.0 on the pH scale. The danger point in most lakes is about 5 pH, and this jeopardizes seriously the smallmouth bass, walleye and lake trout.

Other sensitive areas are the Central Washington Lakes and lakes near Jacksonville, Florida. The Sierra Nevada Mountain Range, The Sequoia National Forest, the Klamath Mountains, and the San Bernardino Mountains in California are also being watched closely, as are the Green Mountains in New Hampshire, the Shenandoahs and the Blue Ridge Mountains.

In regard to plants and soils, scientists are concerned about the way acidity can leach elements, such as calcium and magnesium, needed for plant growth at the same time it releases toxic metals such as aluminum and magnanese to damage the plants. There is some favorable news, in that farmers can avoid damage from acid precipitation by controlling the soil acidity. This is not quite so easy in forest land, however. At present it is suspected that the death of almost 80 percent of the silver fir trees in Germany's Black Forest can be attributed generally to air pollution and specifically to acid precipitation. German scientists are now establishing studies for forest death, particularly as it affects lumber production, and are attempting to fertilize stricken areas. Czechoslovakia and Poland are encountering problems with their forests as well. In the Green Mountains of New Hampshire, approximately 50 percent of the red spruce trees have died in the past 15 years.

Lakes and forests are not the only earth features that seem to be affected by acid deposition. In Europe, stone statues and buildings have been eroded seriously over the past few decades. Stone that has prevailed over centuries is now marred. Seriously damaged statues on the Acropolis in Athens have been moved to a

How Acid Precipitation Is Measured ALKALINE ACIDIC (Higher Numbers) (Lower Numbers) NEUTRAL Lemon Juice Baking Soda Clean Vinegar Sea Rainfall Water Ammonia pH Scale* 0 3 5 13 8 9 10 11 12 14 Acid Precipitation — *Each number represents a tenfold increase or decrease in acidity. A pH value of 5 is 100 times more acidic than pH 7.

Courtesy of California Air Resources Board

SURVIVAL GUIDE/JUNE 1984 53

TYPES OF ACID DEPOSITION

Rain Experiments indicate that highly acidic rain may interfere with ability of fish and other aquatic life to reproduce, kill fish just hatched, release toxic metals, and disrupt lake's nutrient cycle. Snow Acid shock that occurs when the collection of snow melts into rivers and lakes is more damaging than rain. Up to 100 times more acidic than Fog acid rain, it reacts with smoo to form sulfuric acid. Dry When dry deposition mixes with water, the result is concentrated sulfuric acid.

museum for their protection. Grave markers are becoming unrecognizable.

In terms of human health, research is really just beginning. There is some suspicion, however, that the "killer" fog that hit London in 1952 may have produced a reading of between 1.4 and 1.9 had it been measured at the time. In the subsequent five days, an estimated 4,000 deaths over the normal rate of human attrition were

Normal brown trout, top, were hatched in 5.5 pH water. Trout, lower photo, were hatched in 4.5 pH water. (Photo by Lars Overrein)

reported from bronchitis, pneumonia and heart disease. Numerous cases of eye irritation, sore throats and nausea were also experienced. The acid fog problem in California is of great concern, with a Los Angeles reading of 1.7. The famous fogs of San Francisco have also carried reduced pH measurements.

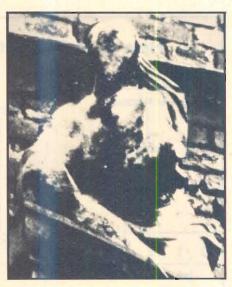
Sources-The relationship between burning of coal and air pollution has been recognized at least since the 13th Century, when the British parliament forbade coal burning in London during the time parliament was in session. When the industrial revolution strove to meet the energy needs of an increasingly technical society by means of burning fossil fuels, however, the full results were unknown at that time. As with many technical projects, the earth's atmosphere was requested to somehow absorb the output of industrial and automotive byproducts. Because nature operates within some fairly forgiving parameters, to a certain extent the atmosphere did cooperate. But, during the past 30 years, a surge in demands for electrical energy brought about increased sulfur emissions levels as a result of utilization of oil and coal. Sulfur emissions increased 50 percent between 1950-75. In 1975 alone, Europe and North America emitted approximately 100 tons of sulfur compounds. Roughly 70 percent of this sulfur is returned to earth as local, dry deposition. About 30 percent of it will be

transported to other areas as longerlived sulfates because of the oxidation they go through in this process.

Acid rain literature points out three main focal points of pollution that contribute to acid deposition. Historically, the first are factories and cities in Europe and England. A study was initiated in Sweden in 1952 to explain the death knell of hundreds of its lakes as a result of pollution blown in from Northern Europe. Another main source of acid deposition has been pinpointed at the 400-meter-high Superstack Smelter at Sudbury, Ontario. This plant has emitted acidic particles up to 1.3 million tons per year. The third source is in the Ohio Valley, where coal is used to supply energy for power generation. Acidity is a national and international problem that has become agitated by accusations between the principles. Scandinavians say that their southern neighbors have contributed to their dilemma. Northeastern Americans point the finger at Sudbury, Canadians refer guestioners to the United States. Part of this is the result of "transport," which, in short, means higher smokestacks in order to disperse emissions over a larger geographical area with the express desire of minimizing their effects. It does, but it also deposits what is left on states or nations that were not responsible for creating it. The resulting confusion is also complicated by the fact that it is extremely expensive to clean up these emissions. This can be accomplished by process-



This 1908 photograph of a figure sculpted in Germany in 1702 shows erosion that occurred over a period of 200 years.



This photograph of the same figure in 1969 shows erosion largely caused by air pollution since 1908. In only 61 years, the figure became unrecognizable.

ing the coal/substances before they are used or by scrubbing them in the stack prior to release, or by desulfurizing the oil or flue gas. Japanese industries, faced with high fines for not meeting pollution standards, have seen the wisdom of pursuing clean emissions and are now approaching a 90 percent removal rate. In the United States, the Clean Air Act of 1967 placed controls in the hands of the Environmental Protection Agency and also empowered the states to develop and maintain plans sufficient to control air quality standards. The EPA has the right to enter if it believes the state is not conducting its program satisfactorilv, but these steps, when taken in the past, have resulted in a number of difficulties of enforcement.

The Acid Precipitation Act of 1980 established an Interagency Task Force to develop and implement a 10-year study of the nature of acid deposition. After three years of investigation, acid rain scientists are at present calling for control of acid deposition, rather than waiting for more study results. Twothirds of the 97 experts who responded to a survey conducted by the National Wildlife Federation supported a 10- to 12-million ton reduction in sulfur dioxide emissions in 31 eastern states and eastern Canada. The majority of the EPA scientists, took a tougher stand than their boss, William Ruckelshaus, who is being accused by the Clean Air Coalition of proposing that industry be allowed to discharge 700,000 more tons of sulfur dioxide every year than is allowed under current regulations, as reported in Wildlife Digest, February, 1984.

At this writing, there are 10 different bills before the Congress of the United States in an attempt to deal with the acid deposition problem, a great deal of discussion between governors of various states, and some discussions with the President in regard to viable solutions. It appears that one of the chief problems is how to handle the immense expense of cleaning up the emissions: Should the cost be absorbed by everyone in terms of higher taxes or should the expense be passed on to the consumer?

While all this is going on, there are two areas of participation which survivalists may impact directly. The first is personal. The second is social/ political. Part of preparing to survive is preparing the world to survive.

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SURVIVAL CENTER

This self-sufficiency supermarket stocks nothing that has not been tested to guarantee consumer satisfaction . . .

By Jerry Younkins

HE SURVIVAL CENTER is the largest self-reliance/survival/self-sufficiency-oriented business in the eastern half of the U.S. This retail outlet and mail order center is located on the pastoral 240 acre Hannah estate on the outskirts of Ravenna, Ohio, 35 miles southeast of Cleveland.

The visitor will find 6,500 square feet of product displays. A trip could easily consume the better part of an afternoon just to examine the array of items in this "survival supermarket." The staff members are well versed in specifics of equipment and storage needs, and uses for individuals, families and groups. The Survival Center stocks nothing that has not been tested to guarantee consumer satisfaction.

The maze of survival oriented products in today's marketplace is both a blessing and a source of confusion, particularly to the individual who is just starting to undertake preparation for and/or pursuit of a simpler, more selfreliant lifestyle. It is a blessing because in the not-so-distant past many goods and serices of use to survivalists were difficult, if not impossible, to locate. Currently, just the opposite is the case, and it is in this veritable comucopia of useful items that confusion may arise. Shopping at an establishment such as the Survival Center can assuage much of this confusion because the customer can examine products first-hand, and ask questions to which he receives



Bulk grains and other foodstuffs are available by the bucket or the bag.

competent answers. Because life and security may be affected by what is stored toward the future, it is crucial that the survivalist be equipped with information that will enable him to make the correct selections.

The Survival Center has been in operation since 1974 and the staff deserves praise for their efforts to seek expansion of their practical survival and saelf-sufficiency knowledge and to pass this knowledge on to their customers. It is refreshing to deal with a business that places such an emphasis on helping customers.

One of the focal points of the store is the vast selection of storage foodstuffs, including freeze dried, dehydrated, bulk grains, beans, peas, sprouting seeds, vegetable gardens in a can and prepackaged meals. The Survival Center was one of the pioneers in using poly buskets to package whole foods with a nitrogen atmosphere and their Hannah Mills house brand forms the basis of many storage food programs. The customer has the choice of purchasing prepacked foods or obtaining empty buckets and doing the work at home. Experts are wirtually all in agreement that foods packed in double enameled metal cans with an inert atmosphere of nitrogen offer longest and most secure storage.

To facilitate the use of storage and whole foods in the daily diet, a wide selection of food appliances are available. Included are both manual or



On entering the store, the customer is greeted by a large book selection.



The "survival supermarket" provides a cornucopia of self-reliance equipment



The range of products is broad: crossbows to vacuum packers to juicers.



Non-firearms weaponry and tools for emergencies make up this display.



An entire department is devoted to alternative energy devices.

electric grain grinders, strainers, dehydrators including an efficient solar model, vacuum packing equipment, water purifiers and distillers, sprouting kits and more. The staff is quick to remind consumers that foods that are stored should be identical with those consumed daily. If you live on cheese-burgers, the shift to a predominently whole grain diet could be traumatic, particularly for younger children.

The Survival Center is both a proponent and a user of alternate energy systems and carries a line of wood stoves, kerosene heaters, solar equipment and wind generators. The visitor is quick to notice the mounted solar panels and the "Gone With The Wind" generator mounted on a pole beside the store. Five models are available ranging from 1,000 to 20,000 watts. These, in many locations, could take advantage of an often neglected energy source. A surplus handcranked emergency generator is another item that deserves a place in personal storage.

Many Survival Guide readers are familiar with Thomas Neiman, author of the widely heralded nuclear survival book, Better Read Than Dead. Working with the Survival Center, Neiman has assembled a compact survival backpack containing items covering

the areas of food, water, shelter, navigation, warmth and protective clothing. There are numerous survival kits and packs available. This is one of the more complete.

The book section is the first area to greet the visitor on entering. The selection includes nearly 1,000 titles with subjects ranging from survival skills and food storage to health and earth changes. The author owns an advanced survival and self-sufficiency library that has taken years to assemble and can agree wholeheartedly with SC management that the value of this area of preparation cannot be overemphasized.

Today many believe that the threat of nuclear war and/or natural catastrophe are a real and present threat. Because of the pioneering efforts of men like Dr. Bruce Clayton, Tom Neiman and Cresson Kearney, the "On The Beach" syndrome has been eradicated from the minds of most survivalists. However, advanced levels of preparation still are required to obtain survivability. To provide the advanced survivalist with nuclear or disaster protection, the SC people offer the Survival Shelter. Available either assembled or in kit form, the standard size can hold five people comfortably and has a nuclear protection factor of 8,000 as compared with the government standard of 40. The standard and optional features of this shelter would fill several pages, but those who are considering a move in this direction would be wise to send for the Survival Shelter descriptive brochure.

Another reason that many readers may find a retail outlet such as the Survival Center of interest is that it is the best method of covert preparation. There's no point in arguing the merits of secret preparation here, but many survivalists have deemed it wise to attract as little attention to their efforts as possible. While some carry this to extremes, it is not bad policy. Many will not subscribe to survival magazines and avoid getting their names on mailing lists. Just take in your cash and you can walk out with your storage. food or whatever you need, no questions asked.

The Survival Center is also one of the largest mail order dealers in supplies for self-reliant living and offers an information-packed catalog and publishes trequent fliers with many items on special sale price. The catalog cost is \$2. The address is Survival Center, 5555 Newton Falls Road, Dept. SG, Ravenna, OH 44266. The company's reputation, service and products are above reproach.

Getting Ready:

THE MEDICAL KIT

Roll your own reserves of antibiotics, instruments and bandages . . .

By Chris Pearcy



This padded camera bag contains the complete medical kit. It requires about 1 square foot of storage space, but can assure proper treatment of a broad variety of medical emergencies.



OCIETY PROVIDES myriad goods and services which people tend to take for granted. Medical care, for example, is only minutes away for those who find themselves in need of it. A moment of carelessness recently informed me of this fact:

I received a deep cut on my hand while performing a simple household chore. My ever-ready first aid kit, with its assortment of bandages and ointments, proved to be totally inadequate for stopping the flow of blood. I knew that Band-Aids wouldn't remedy the situation. Within an hour, I had

reported to my doctor and received stitches for the wound. I then realized that should medical care become unobtainable, I would be woefully unprepared to meet medical emergencies beyond minor cuts and scrapes. It became clear that I might someday find myself again in exactly such a predicament.

I began to investigate alternatives to the standard first aid kit. To my surprise, I discovered that with my doctor's help I was able to assemble an advanced medical kit which would treat a variety of emergencies that normally are tended by professional medical practitioners. For survivalists, this sort of kit can provide emergency equipment to deal with severe burns, infections, cuts that require sutures, bone fractures, and many other serious conditions in the event that professional medical care is not obtainable. It would be foolish, possibly illegal, to attempt advanced medical procedures when a doctor is available. There is no substitute for years of study and experience, but there is also no ironclad guarantee that you will always be able to see a doctor when you need one. By adhering to the steps outlined below, it is possible for the layman to

assemble a kit which will protect against such an eventuality.

The Manual-The first, most important step in assembly of a kit is to obtain a manual which describes all medical emergencies for which you may wish to be prepared. You must be selective. Choose a book that offers detailed, step-by-step instructions. A manual written for a physician may be much too complex. Conversely, a standard first aid manual won't provide nearly enough information. Remember, the effectiveness of your kit hinges entirely on how well you choose a manual. There are a variety of good medical books on the market, written especially for survivalists. Look through the advertisements in Survival Guide for examples. The use of more than one book is perfectly acceptable, but I prefer to employ a single volume that covers everything with which I am concerned. My kit is based on Dr. Peter Eastman's Advanced First Aid for All Outdoors, which is published by the Cornell Maritime Press, Inc., Cambridge, Maryland. In the book Dr. Eastman states, "It occurred to us that a first aid book might be constructed like an engine manual-i.e., with troubleshooting points, and 1, 2, 3 recipes to correct them." Topics from simple fractures to amputations are treated in this easy to understand

manner. This comprehensive manual was written primarily for laymen who venture far from medical help in the wilderness or on the sea. The information it contains, however, would well suit the survivalist. So, don't overlook any possibilities in the search for a manual which is perfect for your needs. Especially useful is an appendix which lists medicines and equipment referred to in the treatment section. Many of the books I have examined include similar appendices.

Once the manual is obtained, read it from cover to cover. This will familiarize you with procedures and will also help you to decide which medical supplies best suit your needs. This is a decision-making process because you may wish to include supplies, such as sutures, local anesthetics, needles and syringes, for treatment of deep cuts, for example, but not for altitude sickness, which would require an oxygen supply. Also some drugs are better suited than others for application to the survival medical kit. Sulfadiazene is one drug that has a long shelf-life, and can be used in some cases as a substitute for tetracycline or other antibiotics. Space requirements and economic factors will dictate quantities of various drugs and medicines that you include in your kit.

The accompanying table lists some of the contents of my kit and reasons

SUGGESTED CONTENTS: SURVIVAL MEDICAL KIT trofurazone ointment' antibiotic burn cream Nitrofuracure continent
Gaure pads and assorted bandages
Adhesive tape
Equipment for administration of parenteral fluids*
Salt tablets (or prepackaged saline solutions) to combat dehydration associated with serious burns INFECTIONS antibiotic comment for wounds oral antibiotic oral antibiotic oral antibiotic oral antibiotic oral chemotherapeutic antibiotic 1 tube 30 tablets 30 tablets 30 tablets Sulfadiazene* PAIN CONTROL narcotic for pain relief injectable local anesthetic. Required for suturing, reducing fractures, other procedures. Empirin and Codeine* Lidocaine* 30 tablets 1 multiple dose vial 1-2, 10cc: 1-2, 20cc Syringes and needles FRACTURED BONES to immobilize fractures for padding to relieve pain as bone is set Gauze rolls generous supply Lidocaine' Sling DEEP CUTS sizes 2-0, 3-6; in packets with threaded needle alternate method of wound closure helps to hold achesive ships 1 with and 1 without teeth medical clamping device useful for a variety of pro-cedures. Could be used to clamp an artery if necessary, to hold solure needle Foreceps Needle holde ASSORTED IT EMS prepackaged kit such as those commonly sold in drug stones. used to relieve urinary retention and to stop severe Alcohol grep, packets. Telefile Wipes
opens the airway for artificial respiration
imparim solution for the eyes
a farge assortment of bandages and related vers. 1 adult; 1 child 1 bottle Eyewash Miscellareous first aid items *Prescription required.

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MEDICAL KIT

why I chose these articles, but it should be noted that the choices will vary greatly from individual to individual. In constructing the kit, I tried to include a fairly broad array of equipment for the most common medical problems. I couldn't stock supplies for every possible illness or injury, so I chose to be complete in stocking for the emergencies I did select.

For burn treatment I decided to include (1) a large jar of nitrofurazone antibiotic burn ointment for serious burns (prescription required), (2) a supply of sterile gauze and bandages, and (3) equipment for administration of parenteral fluids to combat dehy-

dration associated with serious burns. Steps should also be taken to treat for burn shock—consult your manual. Remember also that there is no need to include supplies that aren't called for in your manual, unless you already know how to use them, because you won't have instructions for their use.

The List—The second important step is to make a concise list of the medical supplies you need. I suggest division of the list into prescription and non-prescription items. Many of the most important items—antibiotics, painkillers, sutures, catheters, injectable local anesthetics, etc.—require a doctor's prescription, so write down exactly what you need and the quantity you desire. Again, your manual will assist greatly. It is also a good idea to include by each entry a short

note that gives a specific application of the item. This will provide your doctor with an indication of how you plan to use the article. Non-prescription items can be easily purchased at any pharmacy, but because you will need a variety of things, it is best to find a store which has a large selection at lower prices.

See Your Doctor—When your list of prescription items is completed, make an appointment to see your doctor. Take the list and don't forget your manual. I was surprised to find my doctor very receptive to requests, once he understood that the supplies would only be used in an emergency in which I could not obtain the services of a physician. This is also an excellent time to ask questions about procedures described in your manual that you do not understand thoroughly.

Be completely honest with your doctor. Solicit his help in constructing your kit. If he objects to any item, ask him about alternatives. For example, Steri-Strip wound closures are an alternative to sutures, if you can't obtain them. Although they are not generally as sturdy as sutures, they can be purchased without a prescription. When applied over a coating of tincture of benzoin, a preparation for adhesive bandages, Steri-Strips are very effective in sealing and protecting the wound. Although my doctor refused to prescribe any form of injectable painkiller, except for a local anesthetic, he did agree to a mild but effective oral painkiller.

Buying Supplies—Once you have obtained your prescriptions, you are ready to purchase the major supplies for the kit. Most of the prescriptions can be filled at your local pharmacy. but some items may be more difficult to find. Usually, a hospital supply company stocks equipment that you might need, such as catheters, suture needle holders, forceps, etc. Check your telephone directory for hospital suppliers in your area, and ask your doctor where to obtain supplies when he issues your prescriptions. He may even be willing to give you some items from his office supplies that can only be bought in quantity.

You are now ready to assemble the kit. Remember to include a generous supply of bandages and other items, such as those found in basic first aid kits. You might decide to buy one or more of these basic kits for addition to your medical bag. Don't fall into the





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trap of trying to stock too many prescription items while neglecting important non-prescription articles such as bandages, gauze, toothache kits, and antiseptics.

I recommend grouping similar items in sealed plastic bags. Because I will only be using needles and syringes for administering local anesthetic, I grouped these items with sutures and sterile scrub pads into a single plastic bag. This could prevent a leaky or broken bottle from creating a mess. Although I prefer to use something more sturdy, I was forced to employ heavyduty freezer bags. Mark each bag with a permanent number that is plainly visible from the outside. Make a final list of each bag and its contents, and tape it to the inside cover of your manual. When an emergency arises, you will be able to tell quickly by looking in the manual which bag contains a needed item. This practice may save you valuable minutes when you can least afford them.

The Container-Finally, find a good container for your kit. Some prefer to store supplies in containers such as large ammo or fishing tackle boxes, while others prefer soft medical bags. I decided to use a padded camera bag with outside pockets. I found it to be adequate for protection of the kit's contents. Whatever form of container you choose, it is absolutely necessary to store the manual with the kit. I consider one to be useless without the other. Keep all supplies out of reach of children.

Many items in your medical kit will have a definite expiration date, so it is a good idea to keep records which you check at regular intervals. Most shelflives are printed on the supplies, and "the manual" may also list expected shelf-lives. Replace supplies as necessary.

You are now prepared for medical emergencies that would have left you helpless a short time ago. Try to obtain medical training while you have the opportunity. Many communities offer advanced courses. As you increase your medical knowledge, your kit will become more valuable.

The total cost of my kit was well under \$100, but I shaved costs whenever possible. Price will depend on how complex your kit is, and how many people you are preparing to treat medically. Should you find yourself without the luxury of emergency rooms and personal physicians, the kit will be worth its weight in pure gold.



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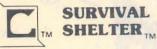
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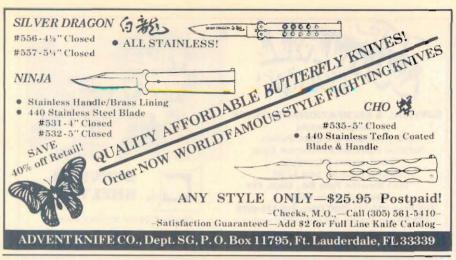
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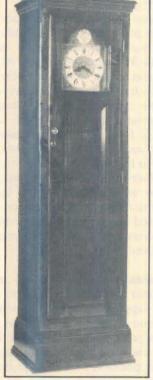
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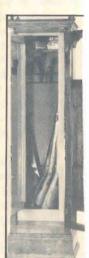
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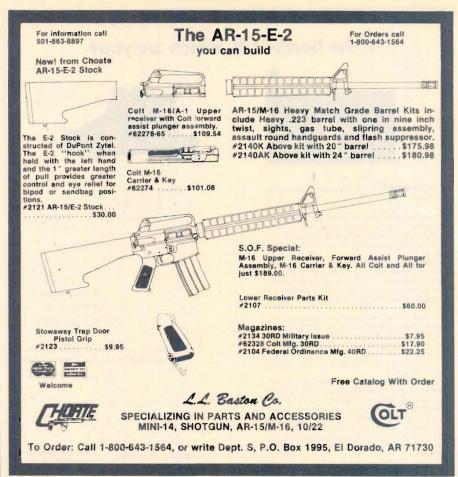
If you're not worried about "the movers" coming in and cleaning you out during your absence, and you like multi-purpose items, you may be interested in these new furniture security chests. Nesci Enterprises presents two styles of grandfather clocks and a custom coffee table, each handcrafted from New England native pine, with safe accommodations. The security enclosure for the clocks is 16 inches wide by 12 inches deep by 60 inches in height. The New Englander style can also accommodate long guns in its hardwood rack, with an additional

wire rack for pistols and shelf at the top for other items. The Nutmegger style has four adjustable shelves for smaller valuables. Both models incorporate the "Van" locking system and tamperproof/pry-proof wrap-around returns, and feature fire-resistant properties. The clock itself is a battery-operated quartz movement. The Columbia coffee table conceals a 14-gauge steel safe that measures 18 inches wide by 6½ inches deep by 48 inches in length and weighs 75 pounds. It is accessible by means of a hinged, 2-inch thick tabletop and a locking mechanism with two "Van" special pick-proof, hardened-body and cam-cylinder locks. Suggested retail price for the Columbia coffee table is \$684, \$965 for the New Englander Clock and \$990 for the Nutmegger Model. For more detailed information, write Dara-Nes Division, Nesci Enterprises, Inc., Dept. SG, P.O. Box 119, East Hampton, CT 06424.



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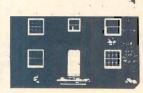
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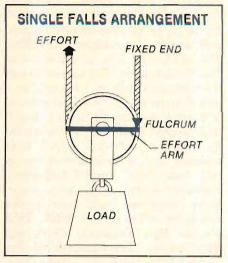
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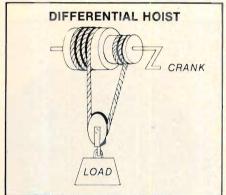


BE PREPARED

(Continued from page 6)



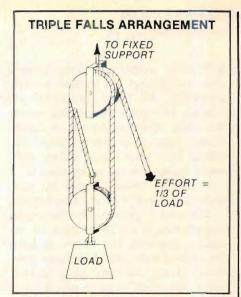
This single-pulley can double lifting capability when the pulley moves with the load. Fixed pulleys only change direction of pull.



A differential hoist, more commonly known as a chain hoist, lifts heavy loads by increasing the distance the chain must be pulled.

by counting the number of strands of rope that pass between the load and the fixed pulley. For example, 3 strands of rope equals a 3:1 ratio, as shown in the triple-falls arrangement.

A similar hoisting device is the differential hoist, commonly known as the chain hoist. The chain hoist also lifts heavy loads by increasing the distance the chain must be pulled, but it is designed differently from the tackle, as shown in the accompanying diagram. In this illustration, notice that as the rope is fed off the smaller spool, it is wound at a slightly higher rate onto the large spool. The chain hoist obtains its mechanical advantage through this action. While the chain hoist has no spools for the chain to wind on, the principle design is the same. The chain hoist uses a continuous loop of chain that is fed on and off a set of toothed pulley wheels. The excess loop becomes longer as the



Lifting ratio can be determined by counting the number of strands of rope that pass between the load and the fixed pulley: 3 strands = 3:1.

load is raised and becomes shorter as the load is lowered.

Mechanical advantage is determined by how much difference there is between the diameter of the pulleys on the fixed end. The closer the diameter of the pulleys, the greater the mechanical advantage obtained. Conversely, the greater the difference between the two pulleys, the lesser the mechanical advantage.

Chain hoists are an excellent choice for lifting very heavy loads a short distance. This is illustrated by their popularity in automotive repair shops to remove engines from cars.

When deciding whether to buy a chain hoist or tackle, try to determine which will give you the most use. While the chain hoist is ideal for heavy loads and short distances, the tackle is more versatile and provides utility over greater distances when you employ a longer rope. Cost is also a factor. For obvious reasons, the chain hoist is more expensive than a block-and-tackle, but it will also withstand greater wear and tear than ordinary rope.

Whenever possible, use mechanical advantage to help accomplish a task. A severely strained back or pulled muscle can be more incapacitating than you think. If you must improvise a crude tackle, be aware of increased friction that reduces lifting capability and causes even greater rope wear. Never leave a suspended load unattended or stand under a load. Even a light load falling a short distance can give you the flyswatter treatment. Above all, exercise common sense and good judgment to prevent setious injury or death.





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DEPRESSION

(Continued from page 25)

frustrating, anger-provoking people and happenings. In critical survival situations, all these situations will worsen and even devastating events are likely. Extreme threats of death, injury, loss of property, being displaced from your home and/or total social collapse must be anticipated. If you weren't deeply upset by such shocks, you would be less than human.

The goal of personal psychological conditioning is not to become an unfeeling machine, but rather to keep from being immobilized by these emotional blows. As with other survival plans, you must begin to prepare and practice now rather than starting when disaster strikes. Your normal life offers many opportunities for learning to cope with, and reduce, frustration rather than feeding it. By learning to work at problems, in terms of what you can do about them, you will increase skill and confidence. Eventually, you will create a natural frame of mind prepared to deal with frustrations.

Mobilizing and strengthening your social connections with family, friends and groups also helps. Loneliness commonly contributes to depression. while association with a group of people you can count on is a valuable source of mutual support.

If you run into a potentially depressing experience, admit to yourself that you feel frustrated and angry, and then go on to figure out what you can do about it. At times, despite your best efforts, there may be nothing for the problem other than to put up with it. That is, at least, a decision, and better than feeling like a helpless victim of circumstances.

This sytem of learning and practicing how to cope with common frustrations increases your ability to do it. Upsetting events will still bother you, but, with practice, they will become less threatening. You will become more skillful in finding solutions and trusting yourself to make decisions. This learning/practice approach strengthens your emotions in the same way that regular weight lifting builds muscles. Accurate prediction of future crisis is impossible, but the person who is prepared by practicing now will be able to manage his reactions and make better decisions when faced with the disruptions which are bound to accompany a true survival period.

HK P9S

(Continued from page 10)

ward kick and muzzle flip were negligible, lessening measurably the shooter's return-to-target time-span between shots. Even small-boned women, those who fire, then hang on for dear life with .45 caliber 1911s. experienced little control difficulty with the P9S.

Price-"The retail price of the HK P9S is five bills, plus," he says. "I'm on a budget. I can't afford it."

Suppose you buy a brand new whatever make .45. It would cost between \$300 and \$600. With some of those whatevers, the owner must add another \$300 to \$2,000 to make the pistol feed, fire, and hit a target. Two things the HK P9S doesn't need are extra 'smith work and aftermarket parts: compensators, link pins, recoil springs, safeties, magazine catches, etc. The P9S is a finished precision product the day it's brought home from the gun store. Perhaps the P9S purchase should be viewed as a saving, rather than just an initial expense at the start of a .45 ACP combat pistol project. It's readers' choice.

For the survivalist, no matter what stripe, urban, suburban or rural, the .45 ACP cartridge, with hardball or hollowpoint or more specialized bullets, is formidable, to say the least, The 1911 sort of pistol may be chosen for nostalgia reasons, but the .45 ACP can well be selected because it's a demonstrated hard-hitter. A few, mainly makers of off-caliber weaponry, will dispute that. Those who are hit by a .45 slug usually go down and stay down. This is not myth or legend. It's on-the-street reality.

The HK P9S can serve a survivalist male very well. Because it produces less felt recoil and less muzzle flip, it can be considered a big-bore weapon for teens and women as well. One does not need to be the size of Lyle Alzado to fire a P9S. All-around, this pistol warrants consideration for the survivalist battery, perhaps as the single and only weapon for some scenarios.

Whatever the situation that calls for use of Heckler & Koch's plastic powershooter, the P9S, this pistol will provide exceptional accuracy, tremendous knockdown power and incredible sighting facility. In a clutch situation how much are those attributes worth?

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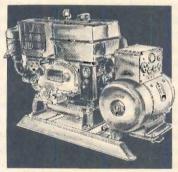
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COMMUNICATIONS

(Continued from page 29)

each other or cause the hearer to request a repeat, "14" and "40" sound alike enough so that one or the other should be deleted from any code list.

In compiling your code, it is easy to make a list of the words and expressions you think you'll need and to assign numbers to them. Whenever possible, try to have a code number stand for a phrase rather than an individual word. This will make the transmissions briefer, although you'll sacrifice some flexibility. Making up the original code list and getting copies to all who'll need them will be relatively easy, but code changes later on. without access to a copy machine, will be more difficult. Unless you want to make up many code changes at one time, copy them and store the copies. which will mean weight and bulk, you'll have to make your changes during the course of the crisis.

There are some easy solutions to this problem. The word to describe them is "superencipherment," which means re-numbering your code. For example, you might decide that the numbers keep their original meanings, but that you'll multiply them by two when transmitting. The listener would divide the numbers you give him by two in order to extract the meanings. A superencipherment could be additive, also. You might simply add one to each number on the basic code list. Next week, you might add two, etc.

The simplest code is the best. When you have to cope with the prospect of being overheard, one simple code for emergency use is clicking the microphone switch. To the eavesdropper, a couple of clicks might sound like interference, or a loose connection in his equipment. Of course, you can't transmit long messages with this method, as it would then sound like Morse code and would advertise to anyone listening that someone was transmitting.

If you are posting a lookout, for example, you might require him to report in a very simple code. One click would mean, "I see something, and will report in person to tell you about it." Two clicks would mean "Emergency! Something dangerous coming. Get ready to fight or run." Three clicks would mean, "I'm bugging out!"

To assure communications security for yourself and the members of your survival group, you'll have to take a few simple precautions in advance.

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COMMUNICATIONS

Talk over the need for communications with the members of your group. Discuss the ways in which unwise use of the radio can compromise the safety of your group. Decide how much of your anticipated communication really needs to go out over the air, and alternative methods of communication. Keep in mind that the need for communications security does not change much with circumstances, and that while you avoid worry about giving away your home base if you plan to be on the move, you still have to watch yourself if you don't want everyone to know you're coming.

Once you and your group decide policy, you can start on physical preparations. If you don't have radio equipment, get it, paying special attention to broadband receivers, as listening is more important than talking in a survival crisis. Do your tests in direction-finding, and build an antenna, if the one that comes with the equipment is not suitable. The time to get the bugs out of the equipment is now, not when the crisis strikes.

Do some field tests on the practical range of your equipment, so that you'll have an idea of how far your transmissions will carry. Keep this in mind when planning your survival site. In a deep valley, stray transmissions will not go beyond the tops of the hills or mountains around you, in many cases, and this gives you an advantage.

Practice emergency communications with your group. Compile your code list, decide on emergency procedures, and persuade the members of your group that they should be very familiar with them. Getting the bugs out of your system means paying attention to the human equation, too.

If you and your group plan your actions in advance, and work out the scenarios, and the communications that you'll need, you'll find that there are very few situations that absolutely require the use of the radio, and that most messages can wait, or be transmitted by other means.

With a lot of planning and a little bit of luck, you'll be able to maintain total security by keeping radio silence. If you absolutely must transmit, you'll be prepared to minimize your exposure, and the risk, by using the techniques of security that you'll have practiced. That way, your radio won't betray you.



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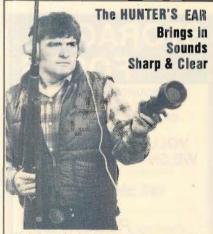
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Survival Workshops **Planned**

XPEDITION Outreach, Inc., and Wilderness Learning, Inc., have joined forces to present two survival workshops during June in Utah and Idaho.

A Desert Workshop will be conducted June 4 through 9 near Cedar City, Utah, and a Mountain Workshop will be held June 18 through 23 near Idaho Falls, Idaho.

Titled "Survival Skills 1984: Stone Age Living/Survival," the workshops will teach fire making, stone weapons/ tools making, cordage/rope, traps/ snares, edible/medicinal plants, shelter, cooking without utensils, food preservation, water location/purification, and orientation.

Instructors will be Larry Wells, Expedition Outreach director, and Kay Harris, Wilderness Learning director. Wells has 15 years of experience as a wilderness survival and stone age living skills instructor. Many of his survival-related articles have appeared in Survival Guide. He is coauthor of the survival handbook, You Can Stav Alive. Harris has 12 years of experience as a wilderness survival instructor, and headed Brigham Young University's 30-day desert survival program before becoming Wilderness Learning director.

Applicants must be 16 years of age or older. Tuition for either separate Desert or Mountain survival course is \$350 for six days, including materials, texts, food, land permits, equipment and transportation.

Wilderness Learning, Inc., 512 Bristlecone Drive, Cedar City, UT 84720, will supply reservation/application forms. Additional information on the survival workshops is available by calling either (801) 586-0779 or (208) 524-1874.

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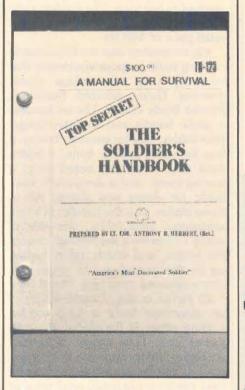






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BOOK REVIEW



The Soldier's Handbook, by Lt. Col. Anthony B. Herbert (Ret.); K-7 Distributors, P.O. Box 13470, Dept. SG, Denver, CO 80201; 611 pages, screw-binding hardcover; \$100.

Col. Herbert's compendium details dirty fighting, detonators, igniters, explosives, fuses, munitions, railroad derailments, booby traps, jellied fuels (napalm), zip guns, lock picking, window jimmying, mail tampering, and rudimentary land and water safety, first aid and survival techniques. Most of the material is obviously compiled from military technical manuals, and much of it deals with military ordnance, or uses thereof. Any one of the evil tricks described in this manual for miscreants could serve a survivalist well at the appropriate time. The price, a hundred bucks, seems outrageous when such handbooks for violence as the Anarchist's Cookbook, by William Powell, Paladin Press, can be obtained for as little as \$12. However, survivalist paramilitary organizations could do worse than to purchase a copy of Col. Herbert's book. Some of the words may be misspelled, but the message is clear: "Commit yourself violently and totally. Attack to destroy. Never fight anyone on equal terms."



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KERSHAW CUTLERY

(Continued from page 35)

hard leather pouch, featuring a stitched-in belt loop. The Folding Field Knife, with pouch, carries a suggested retail price of \$48.95.

For survivalists who are interested in caching multi-purpose equipment that takes up very little storage space, Survival Guide selected Kershaw's Deluxe Blade Trader. The set features a single handle and six interchangeable blades: one for general carving, a saw for wood and/or bone, a frozen food saw, a serrated bread knife, a boning blade, and a deep chef's knife blade for dicing and slicing. All of these blades, plus the handle, fit into a segmented vinyl folder, one side of which is clear for a see-through view of the blades, and which, when tucked up in the accordion-fold mode, fits into a zippered vinyl case 10 x 2.25 x 1.25 inches in size. Overall length of an assembled knife is 13.5 inches. Cutting edges of the blades are 7.25 inches long. Total weight of handle, six blades, folder and case is a mere 1 pound. The Deluxe Blade Trader with case carries a suggested retail price of \$29.95.

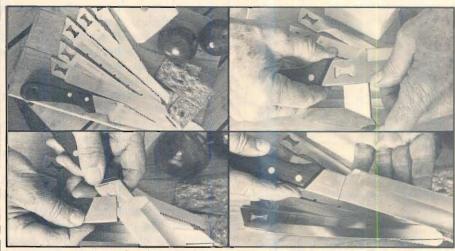
Generally, multi-purpose tools receive a "Fair" to "Poor" rating from Survival Guide people. However, Kershaw's system for attaching the Blade Trader's blades to its handle

won an "Excellent" rating from the crew. An hourglass-shaped boss, riveted to the handle's tang corresponds to cutouts in the respective blades' choll area. The cutout slips snugly over the boss. A stainless steel retainer, merely a narrow, elongated U-section, slides down over blade choll and handle tang, covering boss and cutout, and joining the two components securely as one. The joint is as rigid as though the knife's blade extended through the handle in one piece.

Kershaw's factory-made knives reflect almost custom finish and uncommon attention to manufacturing detail. Unlike many other expensive commercial knives, Kershaw's stainless steel blades are polished to a mirror luster. All exposed surfaces are smooth, without grinder marks or cutting tool nicks remaining. The factory edge, though very sharp, can be improved upon with care, a good wheel or stone, and some time.

These survival, working/hunting and multi-purpose blades are finished much as is Kershaw's gentlemen's jewelry knives. It's beautiful work.

For additional information on Kershaw's complete line of cutlery, write or telephone Kershaw Knives, Kai Cutlery, U.S.A., Ltd., 6024 S.W. Jean Road, Dept. SG, Lake Oswego, OR 97034; (503) 636-0111, or (503) 636-2266. A full-color catalog is available on request.



The Blade Trader features six interchangeable blades and one handle. Each blade has an hourglass shaped cutout which corresponds to the boss on the handle tang. The cutout slips over the boss, and the retainer hinges into position, locking the blade securely into place.

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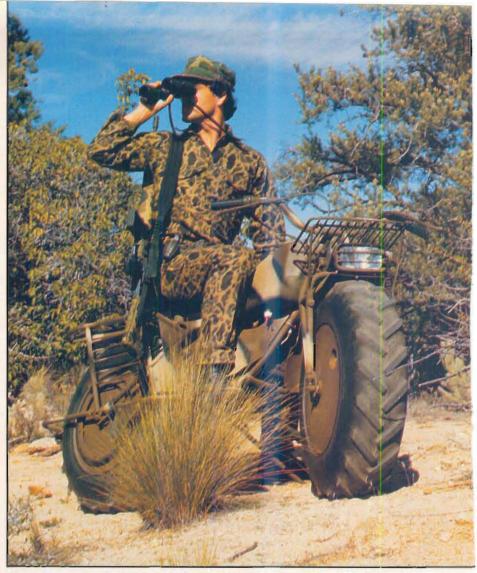
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Staff Report

OKON! THAT name elicits mental images of a massive creature from a Japanese monster movie. Its 2-stroke engine emits sounds like a berserk wildcat. Its spongy tires look as though they would better be fitted to something made by Massey Ferguson. Were it a truck, it would carry the legend "4-Wheel Drive," but it has only two wheels. Camoed, it looks like a motorcycle tricked-out for Rommel's motor pool, but it isn't a fighter. If the reader is confused, think of how Survival Guide's staff felt when faced with the task of evaluating this vehicle—the "Survival Cycle."

In reality, the Rokon is a tube-framed, Chrysler-engined, two-wheel-drive transporter/tractor. It offers three speeds forward, all of them "low" gears, through a clutchless automatic torque converter. The torque converter, together with a flexible coupling above the front wheel, and just ahead of the steering crown, drives both 15-inch tractor-tired wheels simultaneously, using a toothed belt and roller chain and sprockets.

The cycle is rigidly sprung, meaning it has no telescopic fork at the front, no shock absorbers or springs on its rear locating arms. Rather, wheels are mounted on axles that are held rigidly in the front fork, and in the rigid rear arms. Wheel travel is absolutely nil.



For a survival group, the Rokon Ranger could serve as a patrol vehicle, or as a hauler of cargo.

However, the Rokon's "suspension," for those who wish to call it that, is accounted for in the spongy shockabsorbing capability of those farm implement Goodyears inflated to a mere 3.5 psi. The ride quality, as compared with more common off-pavement enduro and trials motorcycles, isn't half bad. Of course, the Rokon isn't capable of the speeds achieved by off-road bikes, so sophisticated springing and shock absorbers aren't a necessity.

Fueling the Rokon requires leaded regular gasoline, plus standard 2-stroke engine oil, as is used in some outboard engines, in 2-stroke motorcycle engines, and in snowmobile powerplants. In SG's case, the Valvoline product was used. The approved mixture is 20:1, gasoline to oil. Two-stroke oil is so compounded that it doesn't burn with the vaporized gasoline inside the cylinder, hence it deposits an oily residue on cylinder walls, piston pins and crankshaft,

thereby lubricating and helping to cool the engine. The Rokon's engine receives no other lubrication, hence the proper 2-stroke oil, and gasolineto-oil fuel mixture are critical.

The Rokon can carry 11.6 gallons of fuel, 2.6 gallons in its conventional saddle tank, and 4.5 gallons per wheel in its unique sealed-drum wheels. The fuel in the wheels adds up to 54 pounds to the Rokon's weight, improving traction in mud, sand, and other soft surfaces.

Mechanically, start-up is much like lighting-off the conventional power rotary lawnmower. Turn the fuel tap (right side forward) to "On." Turn the ignition key switch (right side rear) to "On." Push the choke lever (left side forward) to "Closed" for full choke. Grasp the recoil pull handle (right side amidships), and give it a hearty yank or two in order to prime the engine. Now move the choke lever to "Open," and give the starter cord another brisk pull, ready with right hand on the

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Left side view shows front wheel drive chain, brush protected headlamp, front cargo-carrier rack, and heat shielding on exhaust cone.



Right side view shows gear shift knob, recoil starter handle and fuel filler cap on 4.5-gallon sealed wheel auxiliary fuel supply.

twist-grip throttle. When the engine starts, it may be necessary to continue to give it a bit of choke and a little throttle. However, the aircooled Chrysler Power Bee engine warms quickly, and in a half-minute or so is ready to roll without a choke-enriched fuel mixture.

Stopping the Rokon isn't difficult. The braking equipment, though somewhat unconventional by motorcycle standards, is effective. Two caliper discs function on front and rear drive system components, rather than actually at the wheels. The front caliper is operated by a cable-and-lever system from the right handlebar; the rear brake caliper is actuated by a similar system operating from the left handlebar. Moreover, the Rokon is equipped with a "Kill" button, a thumb switch at the right-hand grip that, when actuated, grounds the ignition circuit, thus killing the engine. As 2-stroke engines have no "compression" braking as such, the kill button serves to retard downhill progress as effectively as compression in a 4-stroke engine.

A couple of Survival Guide staff members have gained considerable experience on off-pavement motorcycles of the English observed trials and endurance race persuasion. The ritual coin was flipped, and the initial rider was chosen.

The test rider engaged first gear by tugging laboriously on the gear change lever (right side rear) until he felt some teeth mesh, then gave the Rokon a twist of throttle. The 2-stroke engine's ring-ding idle sound swelled to the cry of an enraged chainsaw and the Survival Cycle motored off at a speed of about 5 mph. The rider said afterward that he had the feeling that the

Rokon could pull stumps, draw a plow or haul the heaviest of heavy loads in this lowest of low gears.

The Rokon must come to a full stop before engaging another gear, so the staff rider pulled to a halt, shoved the gear change lever inward and caught second gear. In this range, rider No. 2 took off at a fair clip, if a fair clip can be said to be 10 mph or so. This rider chose to hit some hard terrain, erosion cuts through decomposed granite. Standing on the Rokon's foot pegs like an observed trials rider, this staffer successfully negotiated the ups and downs. When he returned to where other staffers were waiting, he complained of a "heavy feel" in the Rokon's front end. "You just can't loft that front wheel over an obstacle with a handful of throttle and kicking your weight back on the pegs. It just won't do it." What this man was describing is a typical means for getting a conventional motorcycle over a boulder or a downed log: body weight rearward, a twist of throttle to induce a bit of a "wheelie," and the bike seems to glide up and over the impediment with ease. It is impossible to cause the Rokon to wheelie because of (1) its relatively low gearing, (2) the weight of its front wheel assembly, and (3) its long wheelbase that prevents the rider from shifting his weight sufficiently far rearward to cause the front wheel to rise off the ground under power application.

Rider No. 3 had a go at top gear—and a dirt road. He accelerated from zero to nearly 40 mph, and disappeared in a cloud of dust. When he returned, he said, "This scooter really moves out." It does that. In top gear, the Rokon will move along at between

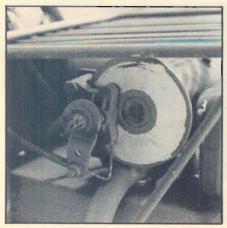
30 and 40 mph, with that Power Bee engine buzzing at approximately 7,000 to 8,000 rpm. At this road speed and at this engine speed, the Rokon is surprisingly smooth, both in terms of transmitted road shock and rider-felt engine vibration. Top speed, however, is insufficient for on-pavement travel.

No. 1 rider took over again, and went back to first gear, then headed out to look for a 60 percent grade, the climb capability limit advertised for the Rokon by its manufacturer. The rider found a hill that looked challenging, with loose rock and gravel on a progressively steepening up-slope. He started up the slope in first gear, engine whining, to its ear-splitting rpm limit. When the Rokon encountered the loose surface, it broke traction momentarily, then found footing, continued to climb, then lost traction for good as it nearly tipped over a few feet from the top. The cycle was backed down the hill. No. 1 engaged top gear, gave the Rokon full throttle, and the Survival bike, like a frightened coyote, zoomed up and over the top, proving that momentum may be more effective than ultra-low gearing for hillclimbing tests.

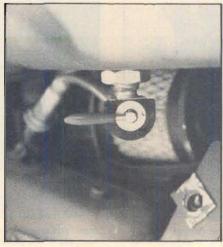
If the Survival Guide staff has one negative impression of the Rokon, it's that the machine's engine, though fitted with a so-called muffler/sparkarrestor, is loud. No, make that LOUD! In one short excursion through a mountain resort village, the Rokon set the town dogs barking furiously, and old ladies peeking through their living room curtains.

The noise may be necessary in the 2-stroke engine scheme of things: such an engine, one that fires every

SURVIVAL CYCLE



The front brake disc is mounted on the frontdrive shaft. The drive sprocket is at the opposite end of the shaft. The caliper is cable operated.



The fuel tap is in the Off position. Turn the lever down for On.

Primary drive is by toothed belt from engine output side to torque converter V-pulley.



Grip twist throttle, brake lever and kill button are at the rider's right hand,

time the piston reaches top deadcenter or thereabouts, requires a sophisticated exhaust system to scavenge burned gases from the cylinder and out the port into the tailpipe and exhaust cone. Each puff of accelerating exhaust gas serves to draw succeeding puffs out of the engine. However, the open configuration of the 2-stroke exhaust system leaves much to be desired in terms of engine noise suppression. Various manufacturers of street and dirt motorcycles have solved this more effectively than has Rokon, but not completely. Indeed, several motorcycle manufacturers have switched from use of 2-stroke to 4-stroke engines in the effort to reduce noise level, to minimize air pollution generated by the engine, and to conserve fuel. In terms of fuel use, the 2-stroke engine is generally notorious as a voracious gulper of petroleum products, oftimes using twice as much fuel per mile as a correspondingly powerful 4-stroke powerplant in a

The 2-stroker's advantages, however, are not inconsiderable. The 2-stroke engine offers the benefit of fewer parts-no valves, pushrods, rockers, valve guides, valve timing chains and the like. Except for occasional fouling of its single spark plug, the Chrysler Power Bee engine is definitely worthwhile with regard to longevity, durability and simplicity of operation, and ease of maintenance

frame of like weight, and under identi-

cal loading.

ROKON RANGER: TECH SPECS

Engine:

Make/Model

Type

Displacement, cu. in. (cc)

Compression ratio

Power output, bhp @ rpm

Ignition:

Source

Plug

Gap, inches (mm)

Cooling

Carburetion

Air filter

Lighting (optional)

Transmission:

Torque converter

Front/rear drive

Speeds

Shift pattern

Brakes

Frame

Weight, dry, pounds

Dimensions:

Wheelbase, inches

Overall length, inches

Width, inches

Seat height, inches

Handlebar height, inches

Ground clearance, inches

Fording depth, inches

Fuel:

Gasoline

OIL

Ratio, gasoline:oil

Tires:

Size

Type

Construction

Tread

Prices:

Base, suggested retail

With accessories, suggested retail

Chrysler/820

single-cylinder, 2-stroke 8.174 (134)

9:1

10 @ 8,000

flywheel magneto

Champion L-10 0.030 (0.76)

air, ducted blower single, diaphragm-type

dry cartridge

alternator stator/voltage

regulator

automatic rollier chain

3-N-2-N-1 (In is low gear.)

caliber discs weided lupular steel

185

49

77

28

310

41

15

2.4

regular, leaded 2-stroke engine combustible

lubricant

20:1

6.70 x 15

farm implement, with tubes 2 bias plies

tractor V

\$2,700

\$3,300



With cowling off, starter pulley cover is visible.

and repair. Anyone who can maintain a motorcycle or lawnmower engine can certainly care for a Chrysler Super Bee.

In addition to the basic Ranger cycle, Rokon offers a number of options for the machine: a Trail Maintenance kit, including plugs and filters; a sort of platform sidecar attachment that rolls on a third 4.5-gallon fuel reserve wheel, and serves as a mini pickup bed; a lighting kit, including a rear brake/taillight and a headlamp with a brushguard; and a rear seat kit, simply an upholstered foam biscuit that bolts to the standard luggage rack at the rear of the solo seat.

As survival equipment, the Rokon Ranger has its good points, and bad. This bushcycle, to coin a term, can go anywhere that a mule can, without doubt, a good point. In everyday service, it uses gasoline, in quantities approaching twice that needed to operate a similar 4-stroke engine of like power rating. The 2-stroke engine can be maintained easily, but that engine is exceptionally noisy, a failing from the stealth point of view. The engine, even with its relatively small piston displacement, 134cc, has its horsepower multiplied immensely through internal reductions, primary belt drive to secondary chain drive to wheel sprockets, but as everyone who knows motorcycles can attest, roller chain often becomes victim to brush and rocks. A Rokon Ranger can maneuver over almost any rough terrain,



The exhaust spark arrestor features a small aperture. The optional lighting kit includes a red taillight. Goodyear tires carry 3.5 psi.

with the possible exception of vertical cliffs and deep rivers, but its powerful slowness is such that it can be run down from behind easily by a Jeep, Toyota Land Cruiser or off-road motorcycle of the enduro or motocross type.

Basically, the Rokon is very well built, from its zinging Chrysler engine to its tube frame, X-ed, cross-braced and gusseted where needed, to its fold-up-on-impact footpegs. It's well conceived as a one- or two-person hauler, or a one-man-and-cargo machine. It's easy to start and ride and is, over the long haul, surprisingly, quite comfortable. Its handling is somewhat cumbersome, when compared



Front wheel drive is achieved through a clutchless automatic torque converter, shafts, roller chain and small-diameter to largediameter sprockets.

with much more agile trials or enduro machines, but can give an excellent account of itself in the hard, rough going.

No enduro or trials dirt bike will pull a plow or a wagon, though.

Survivalists who're looking for transport with working machinery must consider the Rokon Ranger. It is, as Rokon literature states, an all-wheel-drive tractor/transporter—not a motorcycle. A survivalist organization might take this plowhorse and turn it into a patrol vehicle, or a supplies/equipment hauler, but not into a mount for a stealthy scout. In considering survival wheels, this is one to look over.

ROKON EQUIPMENT*

OPTION	SUGGESTED RETAIL PRICE
Double Gang Harrow	\$ 265
Soil Cultivator	\$ 121
Three-Point Hitch	\$ 235
Third Wheel Attachment (Tri-Track)	\$ 495
Chainsaw Scabbard	\$ 87
Mud Scraper	\$ 65
Agricultural Sprayer (Towed)	On Request
Gang Lawnmower	\$1,195
Seeder With Three Discs (Needs Hitch)	On Request
Steel Dump Trailer	\$ 139
Log Skidder	\$ 198
Lawn Roller	\$ 197
Light Package	\$ 131

*For additional information, dealer locations, and listings of other equipment, contact Rokon, Ltd., P.O. Box 427, Dept. SG, Jaffrey, NH 03452, phone (603) 532-8335.

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MAIL CALL

Comparison Shopping

Over the past three months, I have been purchasing Soldier of Fortune and Survival Guide to compare article value and clarity of terminology to the reader. After an in-depth study of both publications, I have found that not only does Survival Guide present very well-written articles, but that you also make them understandable to the non-veteran reader, as well as dealing with valuable subject matter. Survival Guide gets a 10.

Anthony G. Galliant Address Withheld

Coupon Cussers

Say, how about avoiding having valuable text on the back of the contest blanks? Or do you get a commission from the copy machine people?

Charles J. Ballantyne Montpelier, Vermont

Your informative and engrossing magazine is a real treasure. Clear and concise articles provide even the novice survivalist a good chance of handling a rough situation by stimulating foresight. My only complaint is the monthly Giveaway blank. For this month, for instance, to cut into the opening statements on the article about HK's SL7 semi-auto carbine would be a criminal act. Hence the Xerox entry blank is necessary.

Jay Thompson O'Fallon, Missouri

Once again, readers, it isn't necessary to clip that coupon. A piece of ruled paper, a 3 x 5 card, a piece of a brown paper bag or some notebook filler will do. The words "reasonable facsimile" mean just that. All we need from you on your Giveaway entries are Name, Street Address, City, State, Zip and, optionally, Telephone Number, Age and Occupation. It is not, repeat not, necessary to clip that coupon. It is not, repeat not, necessary that the coupon be Xeroxed or otherwise copied with faithful exactitude. A reasonable facsimile will do. Just print or type the requested information on a plain piece of paper, and trim it to the approximate size of the entry coupon, as it

appears in the magazine, then send it in. In past drawings, winners' entries have been on official coupons, on blank paper, on ruled paper, and, yes, Xeroxed. Good luck to ya!

SSB Survivalists

In your March, 1984, issue, Survival Guide requested more information regarding Citizens Band survival radio. I would like to bring your attention to an organization called the SSB Network. They describe themselves as the oldest/largest international network of 27 mHz SSB (single sideband) communications users. Network membership includes special operating and frequency information as well as a membership ID number for a fee of \$8. Be aware that this network is for CBs with single-sideband capability, which I personally enjoy because of the powerful uncrowded bands, not to mention the channel capability. Further information can be obtained by writing the SSB Network, P.O. Box 908, Dept. SG, Smithtown, NY 11787.

> Gary Darrar Address Withheld

Decay Rate

I ran into something that might interest you. Back during the Cuban Crisis (you remember that, don't you?), I put up some supplies in airtight ammo cans. Recently, I went through one looking for something and discovered a package of lighter flints that had fallen apart into a fine powder. Digging farther, I found a Metal Match firestarting kit in which the Metal Match itself had deteriorated in similar fashion. Everything else in that container was still in good condition. It would be nice to start a fire in an emergency. I have found that matches tend to deteriorate over time. I now know that lighter flints and Metal Matches do too. Any suggestions?

> Walter W. Burdin Mobile, Alabama

Here're some alternatives: butane lighters in blister packs, matches treated with parafin or nail polish, a magnifying glass or burning lens, flint/steel and tinder, an electric spark from a battery, or a bow drill (for those who aren't afraid to practice).

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